CH2M HILL
2485 Natomas Park Drive
Suite 600
Sacramento, CA 95833-2937
Tel 916.920.0300
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CH2MHILL

February 18, 2003
172769

Mr. Bob Eller
Siting Project Manager
California Energy Commission
1516 Ninth Street, MS-15
Sacramento, CA 95814-5504

RE: Data Response, Set 1A
Walnut Energy Center (02-AFC-4)

On behalf of the Turlock Irrigation District, please find attached 12 copies and one original of the Data Responses, Set 1A, in response to Staff's Data Requests dated January 23, 2003. These responses are being filed in advance of the 30-day response date. We plan to file another set of responses next week. We are also filing copies of this Data Response electronically.

Please call me if you have any questions.

Sincerely,

CH2M HILL

John L. Carrier, J.D.
Principal Project Manager

c: Project File
Proof of Service List

WALNUT ENERGY CENTER
(02-AFC-4)

DATA RESPONSE, SET 1A

(Responses to Data Requests: 24-34, 60-72, and 98-102)

Submitted by

TURLOCK IRRIGATION DISTRICT (TID)

FEBRUARY 18, 2003

2485 Natomas Park Drive, Suite 600
Sacramento, California 95833-2937

WALNUT ENERGY CENTER
(02-AFC-4)
DATA RESPONSES, SET 1A

Technical Area: Biological Resources

CEC Author: Melinda Dorin
WEC Authors: Debra Crowe and John Cleckler

BACKGROUND

On page 8.2-7, the AFC states that initial field surveys have been completed but additional surveys will be conducted for specific species during the appropriate seasons.

DATA REQUESTS

24. Please submit additional survey results for special status plants. Include the dates and duration of the studies, methods used to complete the studies and the names and qualifications of individuals conducting the studies.

    Response: Spring studies are expected to be completed and submitted by April/May 2003. The associated report will include dates and duration of the studies, methods used to complete the studies and the names and qualifications of individuals conducting the studies.

25. Please submit additional survey results for Swainson's hawk nesting sites. Include the dates and duration of the studies, methods used to complete the studies, and the names and qualifications of individuals conducting the studies.

    Response: Spring surveys are expected to be completed and submitted by April/May 2003. The associated report will include dates and duration of the studies, methods used to complete the studies and the names and qualifications of individuals conducting the studies.

26. Please submit additional survey results for burrowing owl nesting sites. Include the dates and duration of the studies, methods used to complete the studies, and the names and qualifications of individuals conducting the studies. Report any sightings of burrowing owl individuals, or recent sign of burrow use.

    Response: Spring surveys are expected to be completed and submitted by April/May 2003. The associated report will include dates and duration of the studies, methods used to complete the studies and the names and qualifications of individuals conducting the studies.

27. Please submit additional survey results for other protected species, such as migratory birds and white-tailed kites, that may use the site or associated linear facilities for foraging or nesting. Include the dates and duration of the studies, methods used to complete the studies, and the names and qualifications of individuals conducting the studies.

Response: Spring surveys are expected to be completed and submitted by April/May 2003. The associated report will include dates and duration of the studies, methods used to complete the studies and the names and qualifications of individuals conducting the studies.

28. Please submit additional survey results for vernal pool invertebrate species. Include the dates and duration of the studies, methods used to complete the studies and the names and qualifications of individuals conducting the studies.

Response: Spring surveys are expected to be completed and submitted by April/May 2003. The associated report will include dates and duration of the studies, methods used to complete the studies and the names and qualifications of individuals conducting the studies.

BACKGROUND

On page 8.2-15 the AFC states that the Lateral No. 5 drain will be crossed by the natural gas pipeline using either the jack and bore or horizontal directional drill method. On pages 8.2-16 and 8.2-17 there is also information on the potential wetlands and waters that may be crossed by construction of the proposed gas pipeline and the permits that may be required. At the site visit on December 16, 2002, there was also a discussion on the time of year and the methods used to avoid potential impacts to the canal and downstream in the Harding Drain.

DATA REQUESTS

29. Please identify what methods and Best Management Practices would be used if construction were completed when the canal is dry versus when the canal is in use. Include a draft frac-out plan, or rational why it is not appropriate to include.

Response: If construction occurs during the dry season when irrigation flows are low or absent, the conventional open trench construction method would likely be used. BMPs for trench excavation would focus on containing excavated materials and preventing substantial amounts of sediments, cement cuttings, or other debris from flowing downstream. A copy of general BMPs for construction during the dry season are provided in Attachment BR-29A.

If construction occurs during the wet season, when a large amount of drainage water is in the lateral, a trenchless technology (e.g., horizontal directional drilling (HDD), microtunneling, or jack-and-bore) would be used to minimize flow disturbance and potential impacts downstream in Harding Drain. BMPs for HDD, should that method be used, are presented in the DRAFT Contingency Plan for Horizontal Directional Drill Inadvertent Returns of Drilling Mud (included as Attachment BR-29B). The BMPs for jack-and-bore are similar, if not identical to, the BMPs for HDD.

Whichever construction method is used, the BMPs will be further developed and refined once design is completed. Regardless of the method, further design data will be needed to prepare the streambed alteration notification, 404 Permit, and 401 water quality certification application.

30. Please provide a copy of the completed Clean Water Act Section 404 Permit application when it is submitted to the Army Corp of Engineers. A copy of the application is necessary for staff to complete the Final Staff Assessment.

Response: The additional engineering information that is required to prepare this permit application will not be available until later in the project. Therefore, the permit may not be able to be submitted until June 2003.

31. Please provide a copy of the completed Clean Water Act Section 401 (Water Quality Certification) application when it is submitted to the Regional Water Quality Control Board. A copy of the application is necessary for staff to complete the Final Staff Assessment.

Response: The additional engineering information that is required to prepare this permit application will not be available until later in the project. Therefore, the permit may not be able to be submitted until June 2003.

BACKGROUND

At the site visit on December 16, 2002, CEC staff was told that the California Department of Fish and Game (CDFG) would require a streambed alteration agreement application (DFG code section 1600) as notification of the proposed gas pipeline crossing Lateral Drain No. 5.

DATA REQUEST

32. Provide a copy of the completed Streambed Alteration Agreement application when it is submitted to the CDFG. A copy of the application is necessary for staff to complete the Final Staff Assessment.

Response: The additional engineering information that is required to prepare this permit application will not be available until later in the project. Therefore, the permit may not be able to be submitted until June 2003.

BACKGROUND

At the site visit on December 16, 2002, CEC staff was told that there would be a short access road from the railroad tracks to the site.

DATA REQUESTS

33. Please provide a description of the road, including the location, whether it would be paved, and if it is permanent or temporary.

Response: As indicated in Section 8.10.3.7 of the AFC, the existing rail spur that runs parallel to the north border of the project site will be used to deliver heavy equipment. Figures 1.1-2 and 8.2-2C and 8.2-2D in the AFC show the location of this spur, about 150 feet north of the north property line. To facilitate the transportation of heavy equipment from the rail spur to the project site, a temporary access road and railcar offloading area will be required. The specific location of this offloading area has not been determined. However, it will not impact the riparian patch of trees located approximately mid-way along the north border of the site.

The offloading area will occupy an area approximately 50 feet by 50 feet located immediately south of the railroad tracks. The access road will be approximately 15 feet wide by 100 feet long, running straight south from the offloading area to the project site or the project's entrance road. The offloading area and access road will be provided with temporary gravel surfacing covering a total area of about 0.1 acre. Following construction, the gravel will be removed and the offloading area and access road. These areas will then be returned to their pre-construction condition.

34. Please provide a figure depicting the location of the road.

Response: The location of the road, as described in Data Response 33, is not known at this time, but it will be located within the area shown on the attached Figure BR-34. The Applicant prefers to allow flexibility to the construction contractor with respect to the exact east-west location of the offloading area and access road within the following constraints:

- The offloading area and access road shall be located at least 100 feet east of South Washington Road.
- The offloading area and access road shall be located at least 100 feet from the perimeter of the Riparian Patch (RP) indicated on AFC Figure 8.2-2 C and Figure BR-34.
- The offloading area and access road shall be located at least 20 feet west of the east property line of the project site.

ATTACHMENT BR-29A

DRAFT Best Management Practices for Open-Cut Trench Method

General Construction BMPs for Installation of Turlock Irrigation District's Walnut Energy Center Gas Pipeline Under Lateral No.5

The following best management practices (BMPs) will be implemented during the gas pipeline installation under Lateral No. 5 to avoid and/or minimize impacts to local created or natural drainage features resulting from the open-cut trench method of construction:

- All onsite project personnel will receive environmental awareness training that includes BMP methods and/or restrictions.
- Disturbance or removal of vegetation will be kept to the minimum necessary to complete construction. (Little or no vegetation occurs outside the lateral banks, and no vegetation occurs within the cement-lined banks.)
- Remove any vegetative cover as close to the time of construction as possible.
- A 50-foot-wide work area will be maintained along the entirety of the route.
- All equipment will be operated from the paved road or road shoulder.
- Trench crossing will be excavated by equipment staged at least 25 feet from the drainage.
- Spoils will be located at least 25 feet from the drainage.
- Spoils or excavated material will be stored in upland areas adjacent to Lateral 5 and roadways and will not be placed in created or natural drainage features.
- Litter and debris will be removed from the work area daily.
- Material and fluid spill kits will be kept on site.
- All associated permits will be kept on site.
- Equipment will be checked daily for fluid leaks.
- There will be no refueling within 100 feet of a drainage.
- If necessary for trench integrity or irrigation/drainage purposes, reroute any flows around the construction site using flumes, pipes, or other appropriate methods.

- Construction personnel must consult with their supervisor and/or the biological monitor before proceeding through any areas with standing water.
- Appropriate erosion control measures, including but not limited to, coffer dams, straw waddles, sand bags, hay bales, and silt fencing will be used to contain sediments and construction debris.
- All cement will be allowed to cure fully prior to allowing flows to return.
- The original drainage features will be restored following the pipe installation.
- The disturbed work area will be restored to as near the original contour and vegetative condition as possible.
- Native material will be the primary source of backfill material.
- An inspector will visit the open trench drainage crossing at least once a day to ensure compliance with project conditions.
- Pre- and post-construction conditions will be documented by photographs.

ATTACHMENT BR-29B

DRAFT Contingency Plan for Inadvertent Returns of Drilling Mud During Horizontal Directional Drill[1]

Horizontal Directional Drill for Turlock Irrigation District's Walnut Energy Center Gas Pipeline Installation Under Lateral No. 5

Introduction

The following plan includes a brief description of the environmental concerns associated with the possible use of horizontal directional drilling (HDD) and the course of action that would be implemented in the event of an inadvertent return of drilling muds (commonly referred to as a "frac-out"), should HDD be used to cross Lateral No. 5. This plan would be revised if another method of trenchless technology is used.

Environmental Concerns

A frac-out is a potential concern when the HDD method is used for constructing conduits under sensitive habitats and waterways. The HDD procedure uses a drilling lubricant in the drill hole. Bentonite, a fine clay material, is the lubricant normally used in this process. Bentonite is a non-toxic compound, commonly used in farming practices. If a frac-out occurs in the waterways, aquatic species such as benthic invertebrates, aquatic plants, and fish and their eggs can be smothered by the fine particles in the bentonite. Once a leak is identified, all work stops, including the recycling of drilling mud/lubricant. The pressure of water above the pipe keeps excess mud from escaping through the fracture. The amount of drilling mud that could be lost to the environment in the event of an inadvertent return depends on the size of the fracture and amount of head pressure.

The HDD construction method is less intrusive than the traditional open-cut trench method where the habitats sustain direct soil and vegetation disturbance. The primary areas of concern for inadvertent returns occur at the entrance and exit points where the drilling equipment are at depths of less than approximately 12 to 20 feet deep. The likelihood of inadvertent return typically decreases as the depth of the pipe increases. Inadvertent returns along the pipeline alignment are most likely to occur within a linear area of approximately 50 feet at either end of the HDD segment. Although the HDD location at Lateral No. 5 is

[1] Horizontal directional drilling is only one method of trenchless construction that is being considered.

cement-lined, there is a remote potential for small amounts of drilling mud to flow through seams in the cement lining.

On the WEC project, a large, unchecked frac-out event within the Lateral No. 5 drain could conceivably flow downstream to Harding Drain and eventually to the San Joaquin River approximately 7 miles downstream of the crossing at Commons Road. Pond turtles, amphibians, and stray salmon and steelhead could be affected in Harding Drain and/or in the San Joaquin River. However, frac-outs are typically detectable immediately by monitoring pressure changes and the drilling rig would be shut down until any spill is contained. The construction area is easily accessible and observable, any spills are expected to be small and easily contained. Disturbance to surrounding upland agricultural areas would not result in adverse impacts to biological resources.

Avoidance Measures

The following avoidance measures will be implemented to avoid and prepare for potential frac-out events:

- An worker environmental awareness training program will be administered to all onsite personnel prior to work activities.
- All HDD equipment and associated activities will be staged at least 50 feet from the water crossing.
- Secondary containment such as spill basins lined with polyethylene sheeting will be maintained in association with any portable equipment.
- Hay bales, straw wattles, sand bags, and/or silt fencing will be kept on-site to surround and contain drilling muds. A temporary coffer dam may be constructed of impermeable material at the frac-out location or immediately downstream.
- A mobile vacuum truck will be used to pump the drilling mud from the contained area and recycled to the return pit. The vacuum truck will extend a hose to the containment area from approved access areas.
- If an extensive frac-out enters the drain, a spill response team will be called in to contain and clean up excessive amounts of drilling mud within the waterway.
- A secondary containment berm will be constructed around the drilling mud recycling pit and other drilling equipment to ensure containment of drilling mud and potential fluid leaks.
- Spill kits consisting of a 5-gallon plastic bucket, 3-inch ring booms, and absorbent padding will be kept onsite at all times.

- A copy of this plan and the California Department of Fish and Game (CDFG) Streambed Alteration Agreement will be kept onsite.

Notification/Contact Information

In the event of a frac-out, operations will cease immediately, the proper CDFG contacts will be made, and clean up and containment measures will begin immediately. The following includes contact procedures and contact personnel.

A CH2MHILL Biological Monitor (a biologist experienced with HDD operations and frac-out situations) will be onsite for all HDD operations. HDD operation will be continuously monitored for signs of frac-out.

When a frac-out occurs, the Biological Monitor will be responsible for contacting the designated CDFG Environmental Scientist who will evaluate the bore and the proposed remedial course of action before work can resume at the site. The Construction Foreman or Supervisor will be responsible for activating the frac-out response team and implementing the frac-out contingency plan.

The following personnel contact information will be used in the event of a frac-out:

Name	Title	Role	Contact Information
John Cleckler	CH2MHILL Designated Biologist	Provide oversight of biological monitoring.	Office: (916) 286-0395 Cell: (916) 205-9377
Richard Crowe	CH2MHILL Biological Monitor	Provide onsite biological monitoring with the authority to shut down project operations.	Office: (916) 286-0416 Cell: (916) 296-5525
	CDFG Environmental Scientist	Primary CDFG contact in the event of a frac-out.	Office:
	CDFG Warden	CDFG contact if the frac-out or spill occurs before 9 A.M. or after 5 P.M. on weekdays, on holidays, or weekends.	Office:
	CDFG Associate Fisheries Biologist	Primary contact for work window extension. Secondary CDFG contact in the event of a frac-out.	Office:
CDFG Dispatch Office		Backup contact if other CDFG personnel are not available.	Office: (916) 445-0045

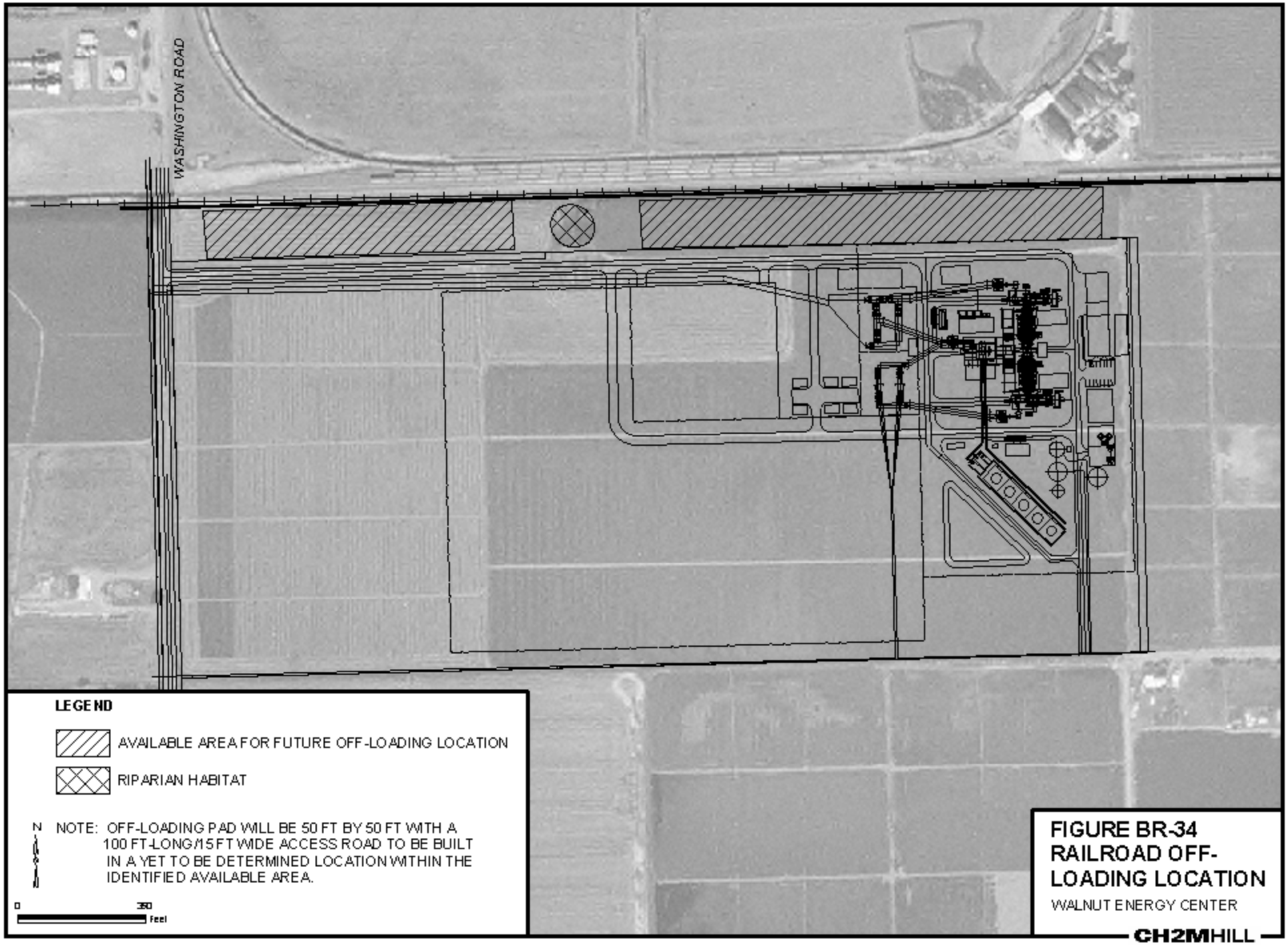

FIGURE BR-34
RAILROAD OFF-LOADING LOCATION

WALNUT ENERGY CENTER

CH2MHILL

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WALNUT ENERGY CENTER
(02-AFC-4)
DATA RESPONSES, SET 1A

Technical Area: Geology and Paleontology
CEC Author: Dal Hunter, Ph.D., C.E.G.
WEC Authors: Tom Lae, and Lanny Fisk

BACKGROUND

A site-specific geotechnical report is described in the AFC in Section 8.15.3.6 as being available in late October 2002.

DATA REQUEST

60. Please provide a copy of the site-specific geotechnical report.

Response: The site-specific geotechnical report is now available. Five copies of the report are included for CEC review as Attachment GEO-60. Additional copies will be furnished to other parties upon request.

BACKGROUND

Section 8.15.6 of the AFC states that no permits are required for geological LORS; however, the City of Turlock does require grading permits for construction projects within city limits. Stanislaus County also requires grading permits for construction projects lying outside the boundaries of recognized municipalities.

DATA REQUEST

61. Please provide permit requirements for the City of Turlock and Stanislaus County.

Response: Permit requirements for the City of Turlock were previously provided in Section 2.5 of the Data Adequacy Supplement. Stanislaus County requires a grading permit for any excavation or trenching activities. All spoils must be hauled off and cannot be used as backfill. All backfill must be A/B material, and no net changes to the existing grading/drainage patterns can occur after trenching. Cut/fill calculations will determine the permit fees. Table GEO-61, below, provides the contacts for both the City of Turlock and Stanislaus County. (The Applicant notes that grading permits are among the types of local permits superceded by the Commission's exclusive siting jurisdiction, per Public Resources Code 25000 et seq.)

TABLE GEO-61
Permits

Permit	Department	Contact	Schedule
Grading	City of Turlock Engineering Department	Brad Cohen (209) 668 5520	Approximately 30 days prior to grading for application and final grading design review.
Grading	Stanislaus County, Department of Public Works	Mike Luevano (209) 525-6550	Approximately 30 days prior to grading for application and final grading design review.

BACKGROUND

Figure 8.15-1 shows the geology around the WEC plant site for a radius of 2 miles. Linear facilities associated with WEC are not shown on the geologic map.

DATA REQUEST

62. Please show linear facilities associated with the WEC on Figure 8.15-1, Geologic Map.

Response: Figure 8.15-1R (attached) includes the linear facilities, as requested.

BACKGROUND

Figure 8.16-1 shows the locations of known fossil sites near the WEC plant site. Neither the WEC plant site nor associated linear facilities are shown on the map.

DATA REQUEST

63. Please show the location of the WEC plant site and associated linear facilities.

Response: The location of the WEC plant site and associated linear facilities were provided as part of the Data Adequacy Supplement as Confidential Figures 8.16-1aR and 8.16-1bR.

BACKGROUND

Figure 2 of Appendix 10G (Geologic and Foundation Design Criteria) shows four soil borings (SB-3 through SB-6); however, the included logs are for SB-1, SB-2, SB-3, and SB-6. In addition, several log pages are missing.

DATA REQUEST

64. Please correct this inconsistency and provide the missing pages in Appendix 10G.

Response: A copy of all the boring logs are provided as Attachment GEO-64.

BACKGROUND

Distances to active faults in California for seismic design are typically determined using the Uniform Building Code (UBC) publication *Maps of Known Active Fault Near-Source Zones in California and Adjacent Portions of Nevada*. The AFC in Section 8.15.3.5 appears to use the Caltrans publication *California Seismic Hazard Map 1996, based on Maximum Credible Earthquakes*. In addition, distances to faults from the WEC plant site differ depending upon the source used. The EQFAULT program can also be used to calculate deterministic peak ground accelerations (DPGA) based upon the California Geological Survey (CGS) fault database.

DATA **REQUEST**

65. Please provide detailed information as to the actual source of fault distances and the method of calculating peak ground accelerations. In addition, please document the use of methods deviating from standard UBC practice and provide a table showing active faults and associated moment magnitude, distance, and DPGA values within a 62 mi (100 km) radius of the WEC plant site.

Response: The January 6, 2003 site-specific geotechnical report addresses seismic hazards for the site, including fault distances and peak ground accelerations per 1997 UBC standards. This seismic analysis replaces the analysis presented in AFC Section 8.15.3.5. Five copies of the January 6, 2003 geotechnical report are included for review as Attachment GEO-60.

ATTACHMENT GEO-60

Geotechnical Engineering Study

Five copies of Attachment GEO-60, Preliminary Geotechnical Engineering Study Proposed TID New Power Plant, were submitted to the California Energy Commission.

PROPOSED GAS
PROPOSED RECYCLED WATER
SITE LOCATION
Qm = Quaternary Modesto Formation

0 2,000 Feet
1 : 24,000

N

2 MILE RADIUS

FIGURE 8.15-1R
TID WEC AREA GEOLOGY
WALNUT ENERGY CENTER
STANISLAUS COUNTY, CALIFORNIA

CH2MHILL

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ATTACHMENT GEO-64

Boring Logs

LEGEND TO LOGS

TERMS AND SYMBOLS

SAMPLE

Sample types are indicated as follows:

■	2.5-inch liner sample	⊡	Unsuccessful attempt
◢	Standard penetration test sample	◿	Unsuccessful attempt

BLOW COUNT

The number of hammer blows required to drive the sampler the last 12 inches using a Standard Penetration Test hammer.

CLASSIFICATION AND DESCRIPTION

——— Conformable material change

– – – – Approximate material change

——— Bottom of hole

SYMBOLS and ABREVIATIONS

▼ Static water level ▽ First water

BOH: Bottom of Hole

OTHER TESTS

EI - Expansion Index
GS - Grain size distribution
RES – Resistivity
DS - Direct Shear
C - Consolidation
CH - Chemistry
RV – R-value
CP - Compaction
UC – Unconfined Compression
TV – Torvane

CONDOR EARTH TECHNOLOGIES
STOCKTON, CALIFORNIA

SOIL BORING LOG

PROJECT T.I.D. - 3002 DATE 6/7/00 BORING NO. SB-1
LOCATION SITE #1 LOGGED BY WR
DRILLING CONTRACTOR SPECTRUM EXPLORATION RIG TYPE CME 45
HOLE DIAMETER 6" HAMMER WEIGHT AND FALL 140LBS, 30" TOTAL DEPTH 41.5'
SURFACE CONDITIONS SOIL DEPTH TO GROUNDWATER NOT MEASURED
SAMPLING METHOD CAL MOD./SPT DRILLING METHOD HSA

NOTES:

SAMPLE ID	DEPTH (ft)	SAMPLE	BLOWS PER FOOT	POCKET PENETROMETER (tsf)	UNIFIED SOIL CLASSIFICATION	GEOTECHNICAL CLASSIFICATION AND DESCRIPTION	DRY DENSITY (pcf)	WATER CONTENT (%)	PLASTICITY INDEX (%)	LIQUID LIMIT (%)	UNDRAINED SHEAR STRENGTH (psf)	OTHER TESTS
SB-1 BAG 1.5'			5		SM	SILTY SAND DARK BROWN, DAMP, LOOSE, NON-PLASTIC FINES, ROOTS, SURFACE ORGANICS, EARTHY SMELL, 1/4 IN. BI-VALVE SHELL FOUND						
SB-1 2.0'			5									
2.5'			4									
3.0'			3									UW
			4									
	5				SP-SM	POORLY GRADED SAND WITH SILT BROWN, MOIST, LOOSE, NON-PLASTIC						
SB-1 BAG 6.5'			3									
			3									
			3									
					ML	SILT WITH SAND GRAY, DAMP, MED. DENSE, INTERBEDDED WITH SAND LENSES. WEAKLY CEMENTED NODULES.						
	10				SP							
SB-1 10.5'			6		SM	POORLY GRADED SAND LENS.						UW
11.0'			7									UW
11.5'			14			SILTY SAND BROWN, MOIST, MED. DENSE, LOW PLASTICITY						
	15											
SB-1 BAG 16.5'			4									
			6		ML	SANDY SILT BROWN, MOIST, MED. DENSE, LOW PLASTICITY						GS
			5									
					SM	SILTY SAND MED. DENSE						
	20											
SB-1 20.5'			8		SP	POORLY GRADED SAND MICA FLAKES, MED. DENSE						
21.0'			11									DS
21.5'			11									
	25											
SB-1 BAG 26.5'			4									
			12		SM	SILTY SAND DENSE 26.5' COARSE GRAINED SAND						GS
			15									
					ML							
	30											
SB-1 30.5'			10			SILT						
21.0'			17			GRAY-BROWN, MOIST, DENSE, MEDIUM PLASTICITY, IRON STAINING						
31.5'			30									UW

CONDOR

SOIL BORING LOG

PROJECT T.I.D. - 3002 DATE 6/7/00 BORING NO. SB-1

SAMPLE ID	DEPTH (ft)	SAMPLE	BLOWS PER FOOT	POCKET PENETROMETER (tsf)	UNIFIED SOIL CLASSIFICATION	GEOTECHNICAL CLASSIFICATION AND DESCRIPTION	DRY DENSITY (pcf)	WATER CONTENT (%)	PLASTICITY INDEX (%)	LIQUID LIMIT (%)	UNDRAINED SHEAR STRENGTH (psf)	OTHER TESTS
					SP-SM	GRADING INTO... POORLY GRADED SAND WITH SILT BROWN, MOIST, DENSE, LOW PLASTICITY						
SB-1 BAG 36.5'	35		7 11 15		SP	POORLY GRADED SAND BROWN, WET, MED. DENSE, MEDIUM GRAIN SIZE						
SB-1 40.5' 41.0' 41.5'	40		11 18 27		SP-SM	POORLY GRADED SAND WITH SILT BROWN, VERY MOIST, DENSE, MICACIOUS FINES						UW
						TOTAL DEPTH: 41.5'						
	45											
	50											
	55											
	60											
	65											
	70											

CONDOR EARTH TECHNOLOGIES
STOCKTON, CALIFORNIA

SOIL BORING LOG

PROJECT T.I.D. - 3002 DATE 6/7/00 BORING NO. SB-2
LOCATION SITE #2 LOGGED BY WR
DRILLING CONTRACTOR SPECTRUM EXPLORATION RIG TYPE CME 45
HOLE DIAMETER 6" HAMMER WEIGHT AND FALL 140LBS, 30" TOTAL DEPTH 41.5'
SURFACE CONDITIONS SOIL DEPTH TO GROUNDWATER 17'-4"
SAMPLING METHOD CAL MOD./SPT DRILLING METHOD HSA

NOTES: POWER IN NEARBY LINES TURNED OFF BY T.I.D.

SAMPLE ID	DEPTH (ft)	SAMPLE	BLOWS PER FOOT	POCKET PENETROMETER (tsf)	UNIFIED SOIL CLASSIFICATION	GEOTECHNICAL CLASSIFICATION AND DESCRIPTION	DRY DENSITY (pcf)	WATER CONTENT (%)	PLASTICITY INDEX (%)	LIQUID LIMIT (%)	UNDRAINED SHEAR STRENGTH (psi)	OTHER TESTS
SB-2 BAG 1.5			6		SM	SILTY SAND BROWN, DAMP, MED DENSE IRON MOTTLING						GS
			9									
			10									
SB-2 2.0			3									UW
2.5			5									DS
3.0			12			2.0': VERY MOIST TO WET.						
						3.0': FINE SILT FOUND IN PROBE TIP (NONE IN TUBE) WITH <5% FINE SAND.						
	5											

CONDOR

SOIL BORING LOG

PROJECT T.I.D. - 3002 DATE 6/7/00 BORING NO. SB-2

SAMPLE ID	DEPTH (ft)	SAMPLE	BLOWS PER FOOT	POCKET PENETROMETER (tsf)	UNIFIED SOIL CLASSIFICATION	GEOTECHNICAL CLASSIFICATION AND DESCRIPTION	DRY DENSITY (pcf)	WATER CONTENT (%)	PLASTICITY INDEX (%)	LIQUID LIMIT (%)	UNDRAINED SHEAR STRENGTH (psf)	OTHER TESTS
SB-2 35.5 36.0 36.5	35		10 17 21			35.5'~36.0' SMALL SILT/CLAY INCLUSIONS. POORLY CEMENTED.						GS UW
SB-2 BAG 41.5	40	BOH	17 20 23		ML	SILT WITH SAND BROWN, VERY MOIST, DENSE FINE-GRAINED SAND COMPONENT.						
						TOTAL DEPTH: 41.5'						
	45											
	50											
	55											
	60											
	65											
	70											

CONDOR EARTH TECHNOLOGIES
STOCKTON, CALIFORNIA

SOIL BORING LOG

PROJECT T.I.D. - 3002 DATE 6/8/00 BORING NO. SB-3
LOCATION WALNUT 115KV SUBSTATION LOGGED BY WR
DRILLING CONTRACTOR SPECTRUM EXPLORATION RIG TYPE CME 45
HOLE DIAMETER 6" HAMMER WEIGHT AND FALL 140LBS, 30" TOTAL DEPTH 31.5'
SURFACE CONDITIONS SOIL DEPTH TO GROUNDWATER 5'-1"
SAMPLING METHOD CAL MOD./SPT DRILLING METHOD HSA

NOTES: USED WATER SWIVEL TO KEEP STEM FULLY CHARGED WITH WATER TO REDUCE FLOWING SANDS

SAMPLE ID	DEPTH (ft)	SAMPLE	BLOWS PER FOOT	POCKET PENETROMETER (tsf)	UNIFIED SOIL CLASSIFICATION	GEOTECHNICAL CLASSIFICATION AND DESCRIPTION	DRY DENSITY (pcf)	WATER CONTENT (%)	PLASTICITY INDEX (%)	LIQUID LIMIT (%)	UNDRAINED SHEAR STRENGTH (psf)	OTHER TESTS
SB-3 BAG 1.5			3		SM	SILTY SAND DARK BROWN, DAMP, LOOSE TO MED. DENSE, LOW PLASTIC FINES. SAND PORTION POORLY GRADED. ROOTS & STRONG EARTHY SMELL						
SB-3 2.0			5									
2.5			4									
3.0			5									UW
			6									
			7									
SB-3 BAG 6.5	5		3		ML	SILT LIGHT BROWN, DAMP, MED. DENSE, LOW PLASTICITY, WEAKLY CEMENTED SILT MODULES (<1/8 IN DIA)						GS
			16									
			11									
SB-3 10.5	10		20			10.0'-11.5' NO RECOVERY (SLUFF ONLY) DENSE						
11.0			20									
11.5			20									
					SM	SILTY SAND: LIGHT BROWN, WET, FIRM, LOW PLASTICITY.						
SB-3 BAG 16.5	15		6		SP	POORLY GRADED SAND DARK BROWN, WET, MED. DENSE, COARSE						
			5									
			6									
SB-3 20.5	20		8		SM	SILTY SAND BROWN, MOIST, DENSE, MEDIUM PLASTICITY						
			18									
21.0			20									UW
21.5					SP-SM	POORLY GRADED SAND W/SILT BROWN, VERY MOIST, DENSE LOW PLASTICITY						
SB-3 BAG 26.5	25		24		SP	POORLY GRADED SAND BROWN, WET, VERY DENSE						
			35									
			25									
SB-3 30.5	30		21									
31.0			29									
31.5			30									
						TOTAL DEPTH 31.5'						

3002PSB3

CONDOR EARTH TECHNOLOGIES

STOCKTON, CALIFORNIA

SOIL BORING LOG

PROJECT T.I.D. - 3002 DATE 6/7/00 BORING NO. SB-4

LOCATION WALNUT 115KV SUBSTATION LOGGED BY WR

DRILLING CONTRACTOR SPECTRUM EXPLORATION RIG TYPE CME 45

HOLE DIAMETER 6" HAMMER WEIGHT AND FALL 140LBS, 30" TOTAL DEPTH 16.5'

SURFACE CONDITIONS SOIL DEPTH TO GROUNDWATER 5'-7"

SAMPLING METHOD CAL MOD./SPT DRILLING METHOD HSA

NOTES:

SAMPLE ID	DEPTH (ft)	SAMPLE	BLOWS PER FOOT	POCKET PENETROMETER (tsf)	UNIFIED SOIL CLASSIFICATION	GEOTECHNICAL CLASSIFICATION AND DESCRIPTION	DRY DENSITY (pcf)	WATER CONTENT (%)	PLASTICITY INDEX (%)	LIQUID LIMIT (%)	UNDRAINED SHEAR STRENGTH (psf)	OTHER TESTS
SB-4 0.5 1.0 1.5 BAG 3.0			6 6 9 7 9 7		SM	SILTY SAND DRY, BROWN, MED. DENSE, NON-PLASTIC FINES, SOME ROOTS & ORGANIC SMELL, MEDIUM TO FINE-GRAINED SAND CONTENT, POORLY GRADED. 3.0': LOWER FINES CONTENT. ROOTS GONE						UW
SB-4 5.5 6.0 6.5	5		3 5 7	0.75	CL SM	6.0': LENS OF LEAN CLAY (pp=1.0 tsf) SILTY SAND BROWN, MOIST, MED. DENSE						UW
SB-4 BAG 11.5	10		7 9 10									
SB-4 15.5 16.0 16.5	15		5 8 12		SP-SM	POORLY GRADED SAND WITH SILT BROWN, WET, MED. DENSE, LOW PLASTICITY, FINE TO COARSE GRAINED SAND. (FINE AT TOP GRADING TO COARSE AT THE BOTTOM.)						UW
	20					TOTAL DEPTH: 16.5'						
	25											
	30											

CONDOR EARTH TECHNOLOGIES
STOCKTON, CALIFORNIA

SOIL BORING LOG

PROJECT T.I.D. - 3002 DATE 6/7/00 BORING NO. SB-5
LOCATION WALNUT 115KV SUBSTATION LOGGED BY WR
DRILLING CONTRACTOR SPECTRUM EXPLORATION RIG TYPE CME 45
HOLE DIAMETER 6" HAMMER WEIGHT AND FALL 140LBS, 30" TOTAL DEPTH 16.5'
SURFACE CONDITIONS SOIL DEPTH TO GROUNDWATER 5'-2"
SAMPLING METHOD CAL MOD./SPT DRILLING METHOD HSA

NOTES: KEPT AUGER STEM FULLY CHARGED WITH WATER FOR BLOW-COUNT ACCURACY

SAMPLE ID	DEPTH (ft)	SAMPLE	BLOWS PER FOOT	POCKET PENETROMETER (tsf)	UNIFIED SOIL CLASSIFICATION	GEOTECHNICAL CLASSIFICATION AND DESCRIPTION	DRY DENSITY (pcf)	WATER CONTENT (%)	PLASTICITY INDEX (%)	LIQUID LIMIT (%)	UNDRAINED SHEAR STRENGTH (psf)	OTHER TESTS
SB-5 0.5' 1.0' 1.5'			3 6 9		SM	SILTY SAND BROWN, DAMP, MED. DENSE, LOW PLASTICITY POORLY GRADED, ROOTS AND ORGANICS, EARTHY SMELL. SMALL LENSES OF CLEAN, COARSE, POORLY GRADED SAND. MICACIOUS FLAKES						CT
SB-5 BAG 3.0'			12 9 7									
SB-5 5.5' 6.0' 6.5'	5		3 6 6		ML	SILT WITH SAND GRAY, DAMP, MED. DENSE, MEDIUM PLASTICITY SMALL CEMENTED NODULES (CRUSHABLE WITH FINGERS						UW DS
SB-5 BAG 11.5'	10		12 15 20									
					SM	SILTY SAND BROWN, MOIST, DENSE, LOW PLASTICITY, IRON STAINED VEINS, WEAKLY CEMENTED NODULES						
SB-5 15.5' 16.0' 16.5'	15		12 20 20		SP	POORLY GRADED SAND BROWN, MOIST, DENSE, FINE GRAINED, MICACIOUS						UW
	20					TOTAL DEPTH: 16.5'						
	25											
	30											

CONDOR EARTH TECHNOLOGIES

STOCKTON, CALIFORNIA

SOIL BORING LOG

PROJECT T.I.D. - 3002 DATE 6/8/00 BORING NO. SB-6

LOCATION WALNUT 115KV SUBSTATION LOGGED BY WR

DRILLING CONTRACTOR SPECTRUM EXPLORATION RIG TYPE CME 45

HOLE DIAMETER 6" HAMMER WEIGHT AND FALL 140LBS, 30" TOTAL DEPTH 31.5'

SURFACE CONDITIONS SOIL DEPTH TO GROUNDWATER 3'-7"

SAMPLING METHOD CAL MOD./SPT DRILLING METHOD HCA

NOTES: USING "WATER PIVOT" TO CHARGE AUGER STEM AND IMMOBILIZE FLOWING SANDS

SAMPLE ID	DEPTH (ft)	SAMPLE	BLOWS PER FOOT	POCKET PENETROMETER (tsf)	UNIFIED SOIL CLASSIFICATION	GEOTECHNICAL CLASSIFICATION AND DESCRIPTION	DRY DENSITY (pcf)	WATER CONTENT (%)	PLASTICITY INDEX (%)	LIQUID LIMIT (%)	UNDRAINED SHEAR STRENGTH (psf)	OTHER TESTS
SB-6 2.0' 2.5' 3.0'			3 4 5 4 5 4		SP-SM	POORLY GRADED SAND W/ SILT DARK BROWN, DAMP, LOOSE, LOW PLASTICITY FINES, ROOTS, SURFACE ORGANICS, EARTHY SMELL, MICA FLAKES						UW
SB-6 BAG 6.5	5		2 2 3			2.0' ROOTS GONE BUT EARTHY ODOR REMAINS						
SB-6 10.5' 11.0' 11.5'	10		15 17 14			10.5' BROWN, VERY MOIST, DENSE						GS
SB-6 BAG 16.5	15		8 12 16									
SB-6 20.5' 21.0' 21.5'	20		12 16 14		SP	POORLY GRADED SAND BROWN, MOIST, MED. DENSE, MEDIUM FINE GRAINED 20.0' COARSE GRAINED, ROUNDED CLASTS						
					SM	SILTY SAND BROWN, MOIST, DENSE, NON-PLASTIC FINES						
	25		3 7 8			24.0' DRILLER REPORTS HITTING FLOWING SANDS MED. DENSE (NO RECOVERY)						
	30		12 20 25			DENSE (NO RECOVERY)						
	BOH					TOTAL DEPTH: 31.5'						

Technical Area: Land Use
CEC Author: David Flores
WEC Authors: Katy Carrasco, Susan Strachan, and Jim McLucas

BACKGROUND

The AFC (Sec. 8.4.3.3.2) indicates that the project site is zoned Industrial, but is currently being actively farmed. The parcel is considered irrigated prime farmland. Under CEQA, the permanent loss of prime agricultural land generally constitutes a significant impact. The applicant, in response to the CEC data adequacy comments; indicated "that if the decision makers find a significant unmitigated farmland impact associated with the project and absent an override, the applicant will provide mitigation similar to the mitigation provided by the applicants for which the Commission has found significant farmland impacts."

DATA REQUEST

66. The aforementioned proposal by the applicant does not provide specific information on how they will mitigate for the loss of prime agricultural land.

    a. Please provide a timeline for discussions or proposals with a local or statewide land trust, farming group, or the City of Turlock planning department in mitigating for the potentially significant impact from the permanent loss of approximately 18 acres of irrigated agricultural land.

    Response: The Applicant has had several discussions with the City of Turlock, regarding the conversion of farmland. The Applicant was informed that this issue was addressed by the City when the project site was rezoned from agriculture to industrial as part of the City of Turlock's 1992 General Plan update. Specifically, the General Plan Update proposed converting 4,700 acres of agricultural land, including 3,200 acres designated as prime farmland (including the project site) to urban (non-agriculture) land uses. As part of its General Plan Update, the City certified an EIR that described and analyzed the potential environmental impacts associated with adopting and implementing the City's General Plan Update. The City determined that the conversion would cause "a significant environmental effect on agricultural resources that cannot be mitigated to a level of insignificance."[2] However, the City addressed the issue by approving a resolution in March 1993, by making a finding of overriding consideration.

    The resolution states in part:

    > The City Council finds that the ability of the City to meet its fair share of the regional need for housing, to ensure that there is a balance of jobs and housing and sufficient services for residents of the

[2] City of Turlock Resolution No. 93-042 dated March 15, 1993, page 6

> community as growth occurs outweighs the environmental risk of farmland conversion with the Planning Area.[3]

It is important to note that the City's determination of significant impact for the conversion of farmland was based upon the conversion of 4,700 acres, not simply the 18-acre project site.

Nevertheless, WEC's proposed conversion of prime farmland is not a new impact. First of all, the project site has been identified as a future urban area by the City of Turlock for over 20 years. In 1984, LAFCO included the site in its original sphere of influence line for the City. It was annexed to the city limits in 1992 and annexed to the Redevelopment Agency boundary in 1996. In 2002, the City began developing a Specific Plan for the project area, designed to encourage industrial development at the project site and the remaining vacant industrial zoned land in the area.

Secondly, when the City rezoned the land from agriculture to industrial, it concluded that the conversion of prime farmland is no longer an issue of concern and would not need to be addressed as the land is developed. The conversion of the WEC project site has previously been assessed and accepted by the City. Specifically, if a non-power plant project were to locate on the same parcel as the WEC project, the City would not evaluate whether or not the project posed an impact due to the conversion of prime farmland, because this issue has already been addressed under CEQA. The Applicant maintains that there is no authority for the Commission to revisit and *de facto* overrule a lawful decision of a local agency, especially where that local agency made its independent determination consistent with, and in compliance with, the requirements of CEQA.

b. Please summarize any mitigation discussions that have occurred to date.

Response: The Applicant has not had any mitigation discussions to date because it believes that the environmental impact associated with the conversion of the project site from agriculture to industrial was appropriately dealt with by the City of Turlock in 1993. Further, "mitigation" measures are required only upon a finding of significant impact. No such finding has been made or can be made on the facts in this case.

BACKGROUND

The City of Turlock Zoning Code restricts lot coverage in the industrial zone that includes the project site. The site plan does not provide calculations of the site area and the aerial extent of proposed roofed structures. This data is required to evaluate project compliance with zone lot coverage requirements.

[3] *ibid*, page 12

DATA REQUEST

67. Provide calculations to show the project's consistency with the City of Turlock's Industrial Zone lot coverage standards with respect to:

    a. The aerial extent of the project site (i.e. the entire ultimate legal parcels proposed for development) in square feet.

    b. The aerial extent of proposed and existing structures with roofs in square feet to show consistency with City of Turlock's lot coverage standards.

Response: Article 9-3-403 of the City of Turlock's Zoning Ordinance addresses the property development regulations for Industrial Districts. Table LU67-1 shows the calculation of the total building floor areas for WEC.

TABLE LU67-1
WEC Building Floor Areas

Building	Length[(1)] (ft)	Width[(1)] (ft)	Area (sf)
Administration/Control Building	110[(2)]	60	6,600
Warehouse/Maintenance Building	118[(2)]	60	7,080
Water Treatment Building	90[(3)]	70[(3)]	6,300
Cooling Tower Electrical Building	50	15	750
Cycle Chemical Feed Building	40	25	1,000
Electric Power Distribution Center	95	40	3,800
Switchyard Control Building	50	24	1,200
Total			26,730

1 Building dimensions per AFC Table 8.11-2, except where noted.

2 The lengths of the Administration/Control Building and Warehouse/Maintenance Building are incorrectly transposed in AFC Table 8.11-2.

3 Per AFC Figure 2.2-1 (the dimensions in AFC Table 8.11-2 are slightly larger).

Table LU67-2 demonstrates compliance with the City's property development regulations. The second column lists the City standard for General Industrial Districts (zoning designation "I"). The third column demonstrates compliance with the standard assuming that the lot in question is the entire 69-acre parcel. The fourth column demonstrates compliance with the standard assuming that the parcel is divided into multiple lots. To present a worst-case analysis, the project lot is assumed to be only 18 acres. This area represents a flag-shaped parcel bounded by the plant fence line to the west and south, the existing property line to the north and east, and includes the plant access road.

TABLE LU67-2
Compliance with City of Turlock Property Development Standards

	City of Turlock Standard	Existing Lot	Smallest Lot (if subdivided)
Gross Land Area, acres		69.334(1)	19(2)
Gross Building Area, sf		26,730	26,730
Lot Size (minimum), sf	15,000	3,020,189(1)	827,640
Lot Width (minimum), ft	150	1,149(1)	915
Lot Depth (minimum), ft	150	2,629(1)	2,929
Lot Frontage (minimum), ft	100	1,150	100(3)
Yard (minimum)			
Front, ft	20	1,890(4)	1,890(4)
Side, ft	0	95(5)	74(6)
Corner Side, ft	20	N/A	N/A
Rear, ft	0	75(7)	75(7)
Maximum Height (maximum), ft	None	132	132
Floor Area Ratio (maximum)	0.60	0.01	0.03
Landscaping Standard (minimum), %	5	N/A (8)	N/A (8)

1 Per parcel map.

2 Making a separate parcel would result in a slightly larger area than the 18 acres of disturbed area described in the AFC. The parcel would have the following boundaries: Area assumes a flag-shaped lot following the existing north property line from Washington Road to the NE corner of the existing parcel, then south along the existing east property line to the south plant fence line, following the plant fence line around the switchyard and the then west to Washington Road along a line parallel and 100 feet south of the north property line.

3 Width of access road corridor assuming "flag" lot.

4 Measured from Washington Road to western-most switchyard structure.

5 Measured from warehouse to north property line.

6 Measured from cooling tower to south fence line.

7 Measured from water treatment building to east property line.

8 Unknown at this time.

As can be seen from Table 67-2, the WEC site will comply with the City of Turlock's property development regulations based on the present lot size and also if the project parcel is subdivided.

BACKGROUND

The applicant has indicated that the plant site would occupy approximately 18-acres of the 69-acre property with the remainder available for agricultural use. To the extent that the balance of the land will continue in agricultural use, staff is unclear

whether the applicant will create a separate parcel for the remaining 51 acres in accordance with the Subdivision Map.

DATA REQUEST

68. Explain whether a land division procedure will be used to create the 51-acre remainder parcel.

Response: TID's Board of Directors will need to make the decision whether or not to split the parcel. Any decision regarding the disposition of this asset will be made by the District's Board of Directors, consistent with their fiduciary duties to the District's ratepayer-owners. At this time, no such decision has been made. However, according to the City of Turlock, the current 69.3-acre parcel can be split into a maximum of four parcels with a minimum parcel size of 15,000 square feet by means of a Parcel Map.

69. If a parcel map is prepared, provide a copy of the recorded final map, lot line adjustment map, or Certificate of Compliance for the subject property(ies).

Response: Should the Board decide to split the parcel, a copy of the recorded final map will be provided.

Technical Area: Noise and Vibration
CEC Author: Steve Baker
WEC Authors: Mark Bastasch

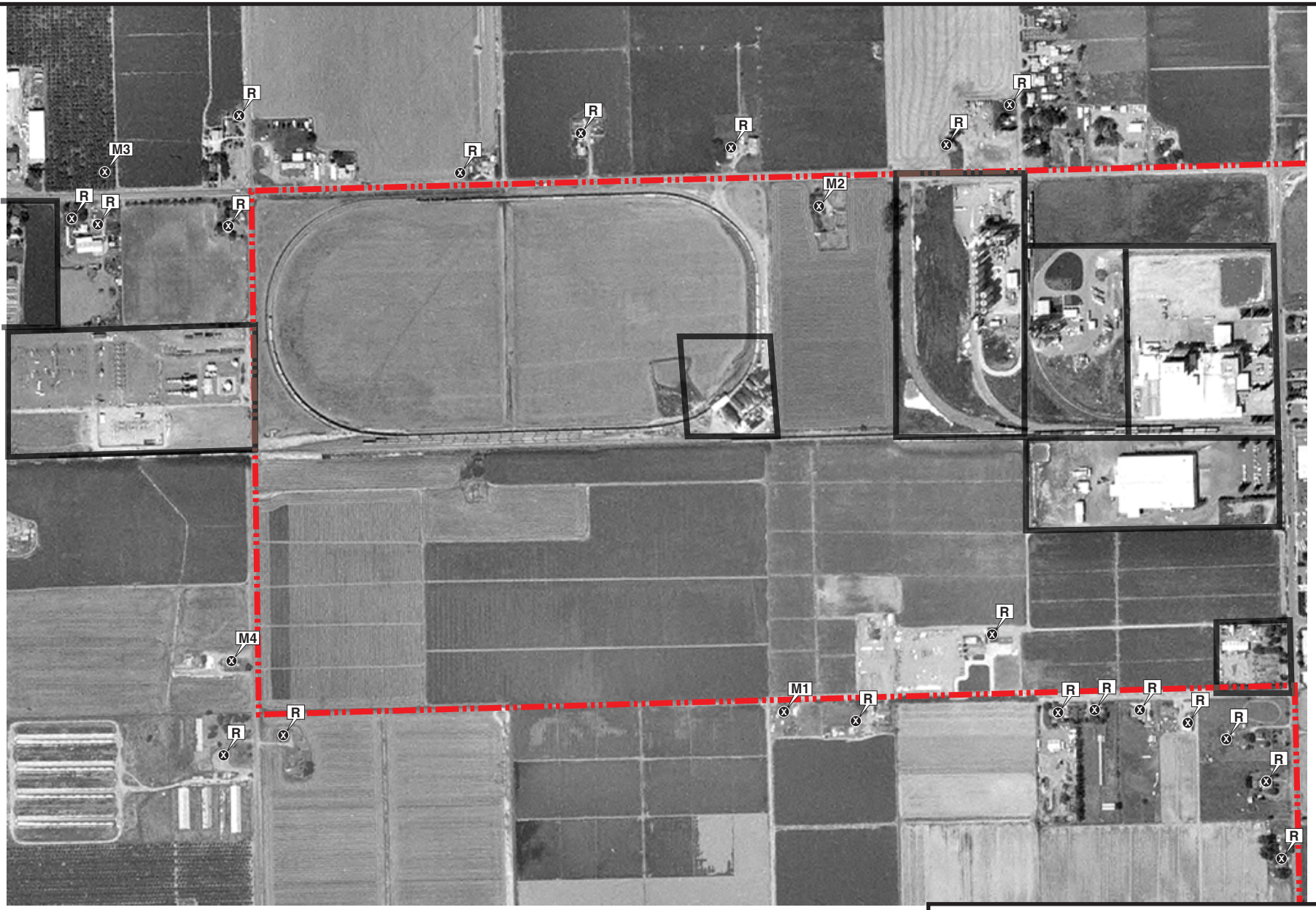
BACKGROUND

The Noise LORS applicable to residences near the project site differ, depending on whether the residence lies within the Turlock City Limits or in the County of Stanislaus. Staff has been unable to determine, from the AFC and from the City's website, which residences near the site lie within the City Limits.

DATA REQUEST

70. Please provide information showing which of the residences near the site lie within the Turlock City Limits, and which lie without. Include, as a minimum, those residences identified in the AFC, Figure 8.5-2, as Noise Monitoring Locations M1 through M4.

Response: Figure 8.5-2 has been revised to show the City Limits. It is attached as Figure 8.5-2R1.



D012003002RDD_03 (1/9/03)

FIGURE 8.5-2R1
NOISE MONITORING LOCATIONS AND EXISTING RESIDENCES
WALNUT ENERGY CENTER

CH2MHILL

WALNUT ENERGY CENTER
(02-AFC-4)
DATA RESPONSES, SET 1A

Technical Area: Public Health
CEC Author: Obed Odoemelam
Technical Senior: Mike Ringer
WEC Author: John Lowe and Sierra Research

BACKGROUND

The health risks from exposure to the project's toxic pollutants should be calculated to reflect the contribution from all applicable exposure pathways, including noninhalation. The California Air Pollution Control Officers Association Revised 1992 Risk Assessment Guidelines (p. III-19) recommend that a screening health risk assessment include the following four minimum pathways: inhalation, soil ingestion, dermal exposure, and mother's milk. The total hazard indices for noncancer impacts and the cancer risk should be calculated to reflect the potential impacts on all potentially affected organs. Additional information is needed to facilitate evaluation of the health risks from the project's toxic pollutants.

DATA REQUEST

71. Please provide a health risk assessment that includes the total chronic noncancer hazard index and cancer risk estimate for each applicable toxicant as contributed by all applicable exposure pathways. All data should be discussed for appropriate context and presented in the relevant appendices.

Response: The cancer risk values, acute and chronic hazard indices, and chronic noninhalation exposure results presented and discussed on page 8.1-56 and Table 8.1-26 of the AFC include all recommended exposure pathways and also include the consumption of homegrown produce pathway. Printouts from the CARB/OEHHA Health Risk Assessment Program, Version 2.0e, are included for review as Attachment PH-71 and summarized in Table PH71-1 below.

TABLE PH71-1
TID Walnut Energy Center Screening Health Risk Assessment Results

Unit	44-year Cancer Risk	70-year Cancer Risk	Acute Inhalation Hazard Index	Chronic Inhalation Hazard Index	Chronic Noninhalation Exposure (Avg Dose/REL)
2 Turbines	2.16E-08	3.22E-08	0.0477	0.0033	N/A
Diesel Engine	N/A	2.75E-06	N/A	0.0018	N/A
Cooling Tower	N/A	2.32E-08	0.0006	0.0153	4.70E-06
Total	2.16E-08	2.81E-06	0.0483	0.0204	4.70E-06

The results presented above are identical to the results presented in Table 8.1-26 of the AFC. As stated in the AFC, acute and chronic hazard indices are well below 1.0, and the chronic non-inhalation exposure is well below the REL. The cancer risk for the maximally exposed individual is 2.81 in a million, with 2.75 in a million risk attributable to the emergency Diesel fire pump engine.

However, since the potential increased cancer risk is greater than one in a million but less than 10 in a million and Toxic Best Available Control Technology (T-BACT) has been applied to reduce risks, health risks from the facility are considered acceptable.

ATTACHMENT PH-71

CARB/OEHHA Health Risk Assessment Program, Version 2.0e Reports

Turbines1.RPT

California Air Resources Board

And

Office of Environmental Health Hazard Assessment

Health Risk Assessment Program

Version 2.0e

INDIVIDUAL CANCER RISK REPORT

Run Made By

JDA

SIERRA RESEARCH

Project : TID Walnut Energy Center

Nov. 4, 2002

Pollutant Database Date : Nov. 15, 2000
Database Reference..... : CAPCOA Risk Assessment Guidelines

DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 2.18E-01

ANNUAL AVERAGE EMISSION RATE INFORMATION

File: WEC AAE.E96

Pollutant Name	Emission Rate (g/s)
1,3-BUTADIENE	3.490E-05
ACETALDEHYDE	3.250E-03
ACROLEIN	2.930E-04
AMMONIA	1.090E+00
BENZENE	2.640E-04
ETHYL BENZENE	2.600E-03
FORMALDEHYDE	1.310E-02
N-HEXANE	2.050E-02
NAPHTHALENE	1.320E-04
PAH:BENZ(A)ANTHRACENE	1.790E-06
PAH:BENZO(A)PYRENE	1.100E-06
PAH:BENZO(B)FLUORANTHENE	8.960E-07
PAH:BENZO(K)FLUORANTHENE	8.720E-07
PAH:CHRYSENE	2.000E-06
PAH:DIBENZ(A,H)ANTHRACENE	1.860E-06
PAH:INDENO(1,2,3-C,D)PYRENE	1.860E-06
PROPYLENE (PROPENE)	6.110E-02
PROPYLENE OXIDE	2.360E-03
TOLUENE	1.060E-02
XYLENES	5.200E-03

EXPOSURE ROUTE INFORMATION

File: WEC TER.I96

Deposition Velocity (m/s) .....: 0.020

Fraction of Homegrown Produce .: 0.150

Dilution Factor for Farm/Ranch X/Q (ug/m3)/(g/s) ....: 0.0000
Fraction of Animals' Diet From Grazing .....: 0.0000
Fraction of Animals' Diet From Impacted Feed .....: 0.0000

Fraction of Animals' Water Impacted by Deposition ...: 0.0000

Surface Area (m2) ....: 0.000E+00
Volume (liters) .....: 0.000E+00
Volume Changes .....: 0.000E+00

Fraction of Meat in Diet Impacted ..: 0.0000

Beef .....: 0.0000
Pork .....: 0.0000
Lamb/Goat .....: 0.0000
Chicken .....: 0.0000

Fraction of Milk in Diet Impacted ..: 0.0000

Goat Milk Fraction ..: 0.0000

Fraction of Eggs in Diet Impacted ..: 0.0000

Fraction of Impacted Drinking Water : 0.0000

X/Q at water source ..: 0.0000
Surface Area (m2) ....: 0.000E+00
Volume (liters) ......: 0.000E+00
Volume changes ....: 0.000E+00

Fraction of Fish from Impacted Water: 0.0000

X/Q at Fish Source ...: 0.0000
Surface Area (m2) ....: 0.000E+00
Volume (liters) ......: 0.000E+00
Volume changes ....: 0.000E+00

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44 YEAR
INDIVIDUAL CANCER RISK BY POLLUTANT AND ROUTE

Pollutant	Air	Soil	Skin	Garden	MMilk	Other
1,3-BUTADIENE	8.13E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ACETALDEHYDE	1.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BENZENE	1.05E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FORMALDEHYDE	1.08E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PAH:BENZ(A)ANTH	2.70E-11	4.15E-11	2.64E-11	2.94E-10	1.06E-10	0.00E+00
PAH:BENZO(A)PYR	1.66E-10	2.55E-10	1.62E-10	1.81E-09	6.54E-10	0.00E+00
PAH:BENZO(B)FLU	1.35E-11	2.08E-11	1.32E-11	1.47E-10	5.32E-11	0.00E+00
PAH:BENZO(K)FLU	1.31E-11	2.02E-11	1.28E-11	1.43E-10	5.18E-11	0.00E+00
PAH:CHRYSENE	3.02E-12	4.64E-12	2.95E-12	3.28E-11	1.19E-11	0.00E+00
PAH:DIBENZ(A,H)	3.06E-10	1.47E-10	9.36E-11	1.04E-09	3.78E-10	0.00E+00
PAH:INDENO(1,2,	2.80E-11	4.32E-11	2.74E-11	3.05E-10	1.11E-10	0.00E+00
PROPYLENE OXIDE	1.20E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Route Total	1.56E-08	5.33E-10	3.38E-10	3.77E-09	1.37E-09	0.00E+00

TOTAL RISK: 2.16E-08

70 YEAR
INDIVIDUAL CANCER RISK BY POLLUTANT AND ROUTE

Pollutant	Air	Soil	Skin	Garden	MMilk	Other
1,3-BUTADIENE	1.29E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
ACETALDEHYDE	1.91E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
BENZENE	1.67E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
FORMALDEHYDE	1.71E-08	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
PAH:BENZ(A)ANTH	4.29E-11	6.43E-11	4.08E-11	4.67E-10	0.00E+00	0.00E+00
PAH:BENZO(A)PYR	2.64E-10	3.95E-10	2.51E-10	2.87E-09	0.00E+00	0.00E+00
PAH:BENZO(B)FLU	2.15E-11	3.22E-11	2.04E-11	2.34E-10	0.00E+00	0.00E+00
PAH:BENZO(K)FLU	2.09E-11	3.13E-11	1.99E-11	2.28E-10	0.00E+00	0.00E+00

PAH:CHRYSENE	4.80E-12	7.18E-12	4.56E-12	5.22E-11	0.00E+00	0.00E+00
PAH:DIBENZ(A,H)	4.87E-10	2.28E-10	1.45E-10	1.66E-09	0.00E+00	0.00E+00
PAH:INDENO(1,2,	4.46E-11	6.68E-11	4.24E-11	4.86E-10	0.00E+00	0.00E+00
PROPYLENE OXIDE	1.90E-09	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Route Total	2.48E-08	8.25E-10	5.24E-10	6.00E-09	0.00E+00	0.00E+00

TOTAL RISK: 3.22E-08

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CHRONIC INHALATION EXPOSURE REPORT

Run Made By

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Project : WEC

Feb. 6, 2003

Pollutant Database Date : Nov. 15, 2000
Database Reference..... : CAPCOA Risk Assessment Guidelines

DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 5.52E-01

ANNUAL AVERAGE EMISSION RATE INFORMATION

File: WEC CTWR.E96

Pollutant Name	Emission Rate (g/s)
AMMONIA	3.780E-04
ARSENIC AND COMPOUNDS (INOR	5.830E-07
CADMIUM AND COMPOUNDS	1.080E-07
CHLORINE	5.400E-03
CHROMIUM 6+	2.380E-07
COPPER AND COMPOUNDS	1.190E-06
LEAD AND COMPOUNDS	7.130E-07
MANGANESE AND COMPOUNDS	2.790E-06
NICKEL AND COMPOUNDS	5.830E-07
SELENIUM AND COMPOUNDS (NOT	5.830E-07
SULFATES	1.620E-02
ZINC COMPOUNDS	4.730E-06

CHRONIC INHALATION HAZARD INDEX

Pollutant	Resp	CV/BL	CNS	Skin	Repro	Kidn	GI/LV	Immun
AMMONIA	<.0001	--	--	--	--	--	--	--
ARSENIC AND COM	--	<.0001	<.0001	--	<.0001	--	--	--
CADMIUM AND COM	<.0001	--	--	--	--	<.0001	--	--
CHLORINE	0.0149	--	--	--	--	--	--	--
CHROMIUM 6+	<.0001	--	--	--	--	--	--	--
COPPER AND COMP	<.0001	--	--	--	--	--	--	--
MANGANESE AND C	--	--	<.0001	--	--	--	--	--
NICKEL AND COMP	<.0001	<.0001	--	--	--	--	--	--
SELENIUM AND CO	--	<.0001	<.0001	--	--	--	<.0001	--
SULFATES	0.0004	--	--	--	--	--	--	--
ZINC COMPOUNDS	<.0001	<.0001	--	--	--	--	--	--
Total Chronic	0.0153	<.0001	<.0001	--	<.0001	<.0001	<.0001	--

A Zero Background Concentration file was used
to perform this analysis, therefore, there is
no contribution from background pollutants.

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ACUTE INHALATION EXPOSURE REPORT

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Project : WEC

Feb. 6, 2003

Pollutant Database Date : Nov. 15, 2000
Database Reference..... : CAPCOA Risk Assessment Guidelines

DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 3.47E+00

MAX. 1-HR EMISSION RATE INFORMATION

File: WEC CT1H.M96

Pollutant Name	Emission Rate (g/s)
AMMONIA	3.780E-04
ARSENIC AND COMPOUNDS (INOR	5.830E-07
CHLORINE	5.400E-03
COPPER AND COMPOUNDS	1.190E-06
NICKEL AND COMPOUNDS	5.830E-07
SULFATES	1.620E-02

ACUTE INHALATION HAZARD INDEX

Pollutant	Resp	CV/BL	CNS	Eye	Repro	Kidn	GI/LV	Immun
AMMONIA	<.0001	--	--	<.0001	--	--	--	--
ARSENIC AND COM	--	--	--	--	<.0001	--	--	--
CHLORINE	<.0001	--	--	<.0001	--	--	--	--
COPPER AND COMP	<.0001	--	--	--	--	--	--	--
NICKEL AND COMP	<.0001	--	--	--	--	--	--	<.0001
SULFATES	0.0005	--	--	--	--	--	--	--
Total Acute	0.0006	--	--	<.0001	<.0001	--	--	<.0001

A Zero Background Concentration file was used
to perform this analysis, therefore, there is
no contribution from background pollutants.

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INDIVIDUAL CANCER RISK REPORT

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Pollutant Database Date : Nov. 15, 2000
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DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 5.52E-01

ANNUAL AVERAGE EMISSION RATE INFORMATION

File: WEC CTWR.E96

Pollutant Name	Emission Rate (g/s)
AMMONIA	3.780E-04
ARSENIC AND COMPOUNDS (INOR	5.830E-07
CADMIUM AND COMPOUNDS	1.080E-07
CHLORINE	5.400E-03
CHROMIUM 6+	2.380E-07
COPPER AND COMPOUNDS	1.190E-06
LEAD AND COMPOUNDS	7.130E-07
MANGANESE AND COMPOUNDS	2.790E-06
NICKEL AND COMPOUNDS	5.830E-07
SELENIUM AND COMPOUNDS (NOT	5.830E-07
SULFATES	1.620E-02
ZINC COMPOUNDS	4.730E-06

EXPOSURE ROUTE INFORMATION

File: WEC CTEX.I96

Deposition Velocity (m/s) .....: 0.020

Fraction of Homegrown Produce .: 0.150

Dilution Factor for Farm/Ranch X/Q (ug/m3)/(g/s) ....: 0.0000
Fraction of Animals' Diet From Grazing .....: 0.0000
Fraction of Animals' Diet From Impacted Feed .....: 0.0000

Fraction of Animals' Water Impacted by Deposition ...: 0.0000

Surface Area (m2) ....: 0.000E+00
Volume (liters) .....: 0.000E+00
Volume Changes .....: 0.000E+00

Fraction of Meat in Diet Impacted ..: 0.0000

Beef .....: 0.0000
Pork .....: 0.0000
Lamb/Goat .....: 0.0000
Chicken .....: 0.0000

Fraction of Milk in Diet Impacted ..: 0.0000

Goat Milk Fraction ..: 0.0000

Fraction of Eggs in Diet Impacted ..: 0.0000

Fraction of Impacted Drinking Water : 0.0000

X/Q at water source ..: 0.0000
Surface Area (m2) ....: 0.000E+00

Volume (liters) ......: 0.000E+00
Volume changes .....: 0.000E+00

Fraction of Fish from Impacted Water: 0.0000

X/Q at Fish Source ...: 0.0000
Surface Area (m2) ....: 0.000E+00
Volume (liters) ......: 0.000E+00
Volume changes .....: 0.000E+00

---

70 YEAR
INDIVIDUAL CANCER RISK BY POLLUTANT AND ROUTE

Pollutant	Air	Soil	Skin	Garden	MMilk	Other
ARSENIC AND COM	1.06E-09	1.26E-09	2.66E-11	5.24E-10	0.00E+00	0.00E+00
CADMIUM AND COM	2.50E-10	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
CHROMIUM 6+	1.97E-08	1.44E-10	3.04E-11	5.78E-11	0.00E+00	0.00E+00
LEAD AND COMPOU	4.72E-12	8.71E-12	1.84E-13	3.66E-12	0.00E+00	0.00E+00
NICKEL AND COMP	8.37E-11	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Route Total	2.11E-08	1.41E-09	5.72E-11	5.85E-10	0.00E+00	0.00E+00

TOTAL RISK: 2.32E-08

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DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 1.07E+02

ANNUAL AVERAGE EMISSION RATE INFORMATION

File: WEC FPAE.E96

Pollutant Name	Emission Rate (g/s)
PARTICULATE EMISSIONS FROM	8.560E-05

CHRONIC INHALATION HAZARD INDEX

Pollutant	Resp	CV/BL	CNS	Skin	Repro	Kidn	GI/LV	Immun
PARTICULATE EMI	0.0018	--	--	--	--	--	--	--
Total Chronic	0.0018	--	--	--	--	--	--	--

A Zero Background Concentration file was used
to perform this analysis, therefore, there is
no contribution from background pollutants.

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INDIVIDUAL CANCER RISK REPORT

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DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 1.07E+02

ANNUAL AVERAGE EMISSION RATE INFORMATION

File: FIRE AAE.E96

Pollutant Name	Emission Rate (g/s)
PARTICULATE EMISSIONS FROM	8.560E-05

EXPOSURE ROUTE INFORMATION

File: FIRE ERF.I96

Deposition Velocity (m/s) .....: 0.020

Fraction of Homegrown Produce .: 0.150

Dilution Factor for Farm/Ranch X/Q (ug/m3)/(g/s) ....: 0.0000
Fraction of Animals' Diet From Grazing .....: 0.0000
Fraction of Animals' Diet From Impacted Feed .....: 0.0000

Fraction of Animals' Water Impacted by Deposition ...: 0.0000

Surface Area (m2) ....: 0.000E+00
Volume (liters) .....: 0.000E+00
Volume Changes .....: 0.000E+00

Fraction of Meat in Diet Impacted ..: 0.0000

Beef .....: 0.0000
Pork .....: 0.0000
Lamb/Goat .....: 0.0000
Chicken .....: 0.0000

Fraction of Milk in Diet Impacted ..: 0.0000

Goat Milk Fraction ..: 0.0000

Fraction of Eggs in Diet Impacted ..: 0.0000

Fraction of Impacted Drinking Water : 0.0000

X/Q at water source ..: 0.0000
Surface Area (m2) ....: 0.000E+00
Volume (liters) .....: 0.000E+00
Volume changes .....: 0.000E+00

Fraction of Fish from Impacted Water: 0.0000

X/Q at Fish Source ...: 0.0000
Surface Area (m2) ....: 0.000E+00
Volume (liters) .....: 0.000E+00
Volume changes .....: 0.000E+00

70 YEAR
INDIVIDUAL CANCER RISK BY POLLUTANT AND ROUTE

Pollutant	Air	Soil	Skin	Garden	MMilk	Other
PARTICULATE EMI	2.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Route Total	2.75E-06	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00

TOTAL RISK: 2.75E-06

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DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 5.52E-01

ANNUAL AVERAGE EMISSION RATE INFORMATION

File: WEC CTWR.E96

Pollutant Name	Emission Rate (g/s)
AMMONIA	3.780E-04
ARSENIC AND COMPOUNDS (INOR	5.830E-07
CADMIUM AND COMPOUNDS	1.080E-07
CHLORINE	5.400E-03
CHROMIUM 6+	2.380E-07
COPPER AND COMPOUNDS	1.190E-06
LEAD AND COMPOUNDS	7.130E-07
MANGANESE AND COMPOUNDS	2.790E-06
NICKEL AND COMPOUNDS	5.830E-07
SELENIUM AND COMPOUNDS (NOT	5.830E-07
SULFATES	1.620E-02
ZINC COMPOUNDS	4.730E-06

EXPOSURE ROUTE INFORMATION

File: WEC CTEX.I96

Deposition Velocity (m/s) .....: 0.020

Fraction of Homegrown Produce .: 0.150

Dilution Factor for Farm/Ranch X/Q (ug/m3)/(g/s) ....: 0.0000
Fraction of Animals' Diet From Grazing .....: 0.0000
Fraction of Animals' Diet From Impacted Feed .....: 0.0000

Fraction of Animals' Water Impacted by Deposition ...: 0.0000

Surface Area (m2) ....: 0.000E+00
Volume (liters) .....: 0.000E+00
Volume Changes .....: 0.000E+00

Fraction of Meat in Diet Impacted ..: 0.0000

Beef .....: 0.0000
Pork .....: 0.0000
Lamb/Goat .....: 0.0000
Chicken .....: 0.0000

Fraction of Milk in Diet Impacted ..: 0.0000

Goat Milk Fraction ..: 0.0000

Fraction of Eggs in Diet Impacted ..: 0.0000

Fraction of Impacted Drinking Water : 0.0000

X/Q at water source ..: 0.0000
Surface Area (m2) ....: 0.000E+00

Volume (liters) ......: 0.000E+00
Volume changes .....: 0.000E+00

Fraction of Fish from Impacted Water: 0.0000

X/Q at Fish Source ...: 0.0000
Surface Area (m2) ....: 0.000E+00
Volume (liters) ......: 0.000E+00
Volume changes .....: 0.000E+00

CHRONIC NONINHALATION EXPOSURE

Pollutant	Avg. Dose (mg/kg-d)	REL (mg/kg-d)	Avg Dose/REL
AMMONIA	---	---	---
ARSENIC AND COMPOUNDS (I	1.20E-09	3.00E-04	4.01E-06
CADMIUM AND COMPOUNDS	3.28E-10	5.00E-04	6.57E-07
CHLORINE	---	---	---
CHROMIUM 6+	5.52E-10	2.00E-02	2.76E-08
COPPER AND COMPOUNDS	---	---	---
LEAD AND COMPOUNDS	1.48E-09	---	---
MANGANESE AND COMPOUNDS	---	---	---
NICKEL AND COMPOUNDS	---	5.00E-02	---
SELENIUM AND COMPOUNDS (	---	5.00E-03	---
SULFATES	---	---	---
ZINC COMPOUNDS	---	---	---

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CHRONIC NONINHALATION EXPOSURE REPORT

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Nov. 4, 2002

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DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 2.18E-01

ANNUAL AVERAGE EMISSION RATE INFORMATION

File: WEC AAE.E96

Pollutant Name	Emission Rate (g/s)
1,3-BUTADIENE	3.490E-05
ACETALDEHYDE	3.250E-03
ACROLEIN	2.930E-04
AMMONIA	1.090E+00
BENZENE	2.640E-04
ETHYL BENZENE	2.600E-03
FORMALDEHYDE	1.310E-02
N-HEXANE	2.050E-02
NAPHTHALENE	1.320E-04
PAH:BENZ(A)ANTHRACENE	1.790E-06
PAH:BENZO(A)PYRENE	1.100E-06
PAH:BENZO(B)FLUORANTHENE	8.960E-07
PAH:BENZO(K)FLUORANTHENE	8.720E-07
PAH:CHRYSENE	2.000E-06
PAH:DIBENZ(A,H)ANTHRACENE	1.860E-06
PAH:INDENO(1,2,3-C,D)PYRENE	1.860E-06
PROPYLENE (PROPENE)	6.110E-02
PROPYLENE OXIDE	2.360E-03
TOLUENE	1.060E-02
XYLENES	5.200E-03

EXPOSURE ROUTE INFORMATION

File: WEC TER.I96

Deposition Velocity (m/s) .....: 0.020

Fraction of Homegrown Produce .: 0.150

Dilution Factor for Farm/Ranch X/Q (ug/m3)/(g/s) ....: 0.0000
Fraction of Animals' Diet From Grazing .....: 0.0000
Fraction of Animals' Diet From Impacted Feed .....: 0.0000

Fraction of Animals' Water Impacted by Deposition ...: 0.0000

Surface Area (m2) ....: 0.000E+00
Volume (liters) .....: 0.000E+00
Volume Changes .....: 0.000E+00

Fraction of Meat in Diet Impacted ..: 0.0000

Beef .....: 0.0000
Pork .....: 0.0000
Lamb/Goat .....: 0.0000
Chicken .....: 0.0000

Fraction of Milk in Diet Impacted ..: 0.0000

Goat Milk Fraction ..: 0.0000

Fraction of Eggs in Diet Impacted ..: 0.0000

Fraction of Impacted Drinking Water : 0.0000

X/Q at water source ..:	0.0000
Surface Area (m2) ....:	0.000E+00
Volume (liters) ......:	0.000E+00
Volume changes ....:	0.000E+00

Fraction of Fish from Impacted Water: 0.0000

X/Q at Fish Source ...:	0.0000
Surface Area (m2) ....:	0.000E+00
Volume (liters) ......:	0.000E+00
Volume changes ....:	0.000E+00

CHRONIC NONINHALATION EXPOSURE

Pollutant	Avg. Dose (mg/kg-d)	REL (mg/kg-d)	Avg Dose/REL
1,3-BUTADIENE	---	---	---
ACETALDEHYDE	---	---	---
ACROLEIN	---	---	---
AMMONIA	---	---	---
BENZENE	---	---	---
ETHYL BENZENE	---	---	---
FORMALDEHYDE	---	---	---
N-HEXANE	---	---	---
NAPHTHALENE	4.10E-08	---	---
PAH:BENZ(A)ANTHRACENE	4.77E-10	---	---
PAH:BENZO(A)PYRENE	2.93E-10	---	---
PAH:BENZO(B)FLUORANTHENE	2.39E-10	---	---
PAH:BENZO(K)FLUORANTHENE	2.32E-10	---	---
PAH:CHRYSENE	5.33E-10	---	---
PAH:DIBENZ(A,H)ANTHRACEN	4.96E-10	---	---
PAH:INDENO(1,2,3-C,D)PYR	4.96E-10	---	---
PROPYLENE (PROPENE)	---	---	---
PROPYLENE OXIDE	---	---	---
TOLUENE	---	---	---
XYLENES	---	---	---

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DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 2.18E-01

ANNUAL AVERAGE EMISSION RATE INFORMATION

File: WEC AAE.E96

Pollutant Name	Emission Rate (g/s)
1,3-BUTADIENE	3.490E-05
ACETALDEHYDE	3.250E-03
ACROLEIN	2.930E-04
AMMONIA	1.090E+00
BENZENE	2.640E-04
ETHYL BENZENE	2.600E-03
FORMALDEHYDE	1.310E-02
N-HEXANE	2.050E-02
NAPHTHALENE	1.320E-04
PAH:BENZ(A)ANTHRACENE	1.790E-06
PAH:BENZO(A)PYRENE	1.100E-06
PAH:BENZO(B)FLUORANTHENE	8.960E-07
PAH:BENZO(K)FLUORANTHENE	8.720E-07
PAH:CHRYSENE	2.000E-06
PAH:DIBENZ(A,H)ANTHRACENE	1.860E-06
PAH:INDENO(1,2,3-C,D)PYRENE	1.860E-06
PROPYLENE (PROPENE)	6.110E-02
PROPYLENE OXIDE	2.360E-03
TOLUENE	1.060E-02
XYLENES	5.200E-03

CHRONIC INHALATION HAZARD INDEX

Pollutant	Resp	CV/BL	CNS	Skin	Repro	Kidn	GI/LV	Immun
1,3-BUTADIENE	--	--	--	--	<.0001	--	--	--
ACETALDEHYDE	<.0001	--	--	--	--	--	--	--
ACROLEIN	0.0011	--	--	0.0011	--	--	--	--
AMMONIA	0.0012	--	--	--	--	--	--	--
BENZENE	--	<.0001	<.0001	--	<.0001	--	--	--
ETHYL BENZENE	--	--	--	--	<.0001	<.0001	<.0001	--
FORMALDEHYDE	0.0010	--	--	0.0010	--	--	--	--
N-HEXANE	--	--	<.0001	--	--	--	--	--
NAPHTHALENE	<.0001	--	--	--	--	--	--	--
PROPYLENE (PROP	<.0001	--	--	--	--	--	--	--
PROPYLENE OXIDE	<.0001	--	--	--	--	--	--	--
TOLUENE	<.0001	--	<.0001	--	<.0001	--	--	--
XYLENES	<.0001	--	<.0001	--	--	--	--	--
Total Chronic	0.0033	<.0001	<.0001	0.0020	<.0001	<.0001	<.0001	--

A Zero Background Concentration file was used
to perform this analysis, therefore, there is
no contribution from background pollutants.

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ACUTE INHALATION EXPOSURE REPORT

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DILUTION FACTOR FOR POINT UNDER EVALUATION

X/Q (ug/m3)/(g/s) : 1.40E+01

MAX. 1-HR EMISSION RATE INFORMATION

File: WEC T1HR.M96

Pollutant Name	Emission Rate (g/s)
ACROLEIN	2.930E-04
AMMONIA	1.090E+00
BENZENE	2.640E-04
CARBON MONOXIDE	7.200E-01
FORMALDEHYDE	1.310E-02
NITROGEN DIOXIDE	5.900E-01
PROPYLENE OXIDE	2.360E-03
SULFUR DIOXIDE	8.190E-02
TOLUENE	1.060E-02
XYLENES	5.200E-03

ACUTE INHALATION HAZARD INDEX

Pollutant	Resp	CV/BL	CNS	Eye	Repro	Kidn	GI/LV	Immun
ACROLEIN	0.0216	--	--	0.0216	--	--	--	--
AMMONIA	0.0048	--	--	0.0048	--	--	--	--
BENZENE	--	<.0001	--	--	<.0001	--	--	<.0001
CARBON MONOXIDE	--	0.0004	--	--	--	--	--	--
FORMALDEHYDE	0.0020	--	--	0.0020	--	--	--	0.0020
NITROGEN DIOXID	0.0176	--	--	--	--	--	--	--
PROPYLENE OXIDE	<.0001	--	--	<.0001	<.0001	--	--	--
SULFUR DIOXIDE	0.0017	--	--	--	--	--	--	--
TOLUENE	<.0001	--	<.0001	<.0001	<.0001	--	--	--
XYLENES	<.0001	--	--	<.0001	--	--	--	--
Total Acute	0.0477	0.0004	<.0001	0.0283	<.0001	--	--	0.0020

A Zero Background Concentration file was used
to perform this analysis, therefore, there is
no contribution from background pollutants.

WALNUT ENERGY CENTER
(02-AFC-4)
DATA RESPONSES, SET 1A

Technical Area: Traffic/Transportation
CEC Author: Mark R. Hamblin
WEC Authors: Jeanne Acutanza

BACKGROUND

The roadways and highway that would potentially be used by construction workers traveling to the Walnut Energy Center project are State Highway 99, West Main Street, and South Washington Road. Currently, State Highway 99 is operating at traffic Level of Service (LOS) F (AFC, pg. 8.10-10). LOS F represents the most congested, slow traffic conditions. The proposed project's peak construction work force is estimated to be 205 workers (AFC, pg. 8.10-14), which would introduce additional vehicles and vehicle trip generation to a portion of State Highway 99.

DATA REQUEST

72. a. Provide a summary of any discussion(s) with Caltrans, which has jurisdiction over State Highway 99, of the potential traffic effect(s) (i.e. influx of construction workers' vehicles, construction vehicles and truck delivery) along that portion of State Highway 99, shown on Figure 8.10-1 of the AFC, within the vicinity of the proposed project.

Response: The current LOS status of State Highway 99 in the project vicinity is LOS E, not LOS F, as was erroneously reported in the AFC. As shown in Figure 8.10-7 of the AFC, the estimated LOS during construction is also LOS E. This means that even with construction traffic, the highway will still operate at capacity and not become oversaturated (LOS F). Because the LOS is the same with and without the project and because the project incorporates significant proposed traffic control measures, there are no significant adverse traffic impacts and thus no further mitigation is required.

b. Discuss any mitigation for the project's traffic impacts to State Highway 99 given its current LOS F status.

Response: The current LOS status of State Highway 99 in the project vicinity is LOS E. The Project will comply with mitigation measures outlined in section 8.10.6 of the AFC. A traffic control plan will be developed to address traffic issues during construction. Appropriate signage, flag persons, and traffic control measures will be implemented as mitigation for safety and traffic obstructions. These measures will be implemented by the construction contractor, consistent with the Commission's decision and applicable LORS. Because traffic impacts are anticipated to be minimal given the traffic control measures to be implemented and the alternate routes can be established, there will be no significant impacts requiring further mitigation.

WALNUT ENERGY CENTER
(02-AFC-4)
DATA RESPONSES, SET 1A

Technical Area: Waste Management
CEC Author: Ellen Townsend-Hough
WEC Authors: Karen Parker

BACKGROUND

The project will generate 8 tons/day of salt cake. The AFC indicates that, based on the proposed design of the facility, this material could be classified as hazardous or nonhazardous. AFC p. 2-12 states that the salt cake is expected to be nonhazardous and taken offsite for disposal in a municipal landfill, while AFC table 8.13-2 indicates disposal in a class II/III landfill if nonhazardous. Even if classified as nonhazardous, salt cake would still be considered a designated waste requiring disposal at a class II landfill. Please provide the following additional information, required to evaluate the impacts of salt cake processing and disposal.

DATA REQUEST

98. Please identify all of the Class II landfills that could be used to dispose of the salt cake from the Walnut Energy Project.

Response: A list of all of the Class II landfills that could be used to dispose of the salt cake (assuming it requires a Class II landfill for disposal) are presented in Table WM98-1.

TABLE WM98-1
Class II Solid Waste Facilities in California

County	Facility Name	Address	City	Phone
Alameda	Tri Cities Recycling & Disposal	7010 Auto Mall Parkway	Fremont	415-638-2303
Alameda	Altamont Landfill	10840 Altamont Pass Rd	Livermore	510-430-8509
Alameda	Vasco Road Sanitary Landfill	4001 North Vasco Rd	Livermore	661-257-3655
Amador	Buena Vista Class II Landfill	6500 Buena Vista Rd	Ione	209-223-6375
Butte	Neal Road Landfill	1023 Neal Rd	Durham	530-345-7681
Calaveras	Rock Creek Landfill	12021 Hunt Rd	Milton	209-754-6402
Contra Costa	West Contra Costa Landfill	Parr Blvd & Garden Tract Rd	Richmond	925-313-8900
Contra Costa	Keller Canyon Landfill	901 Bailey Rd	Pittsburg	925-458-9800
El Dorado	Union Mine Disposal Site	5700 Union Mine Rd	El Dorado	unknown
Kern	McKittrick Waste Treatment Site	56533 Highway 58	McKittrick	661-762-7366
Kings	CWMI Kettleman Hills Facility	35251 Old Skyline Rd	Kettleman City	559-386-6288
Kings	CWMI - B18 Nonhazardous Codisposal	35251 Old Skyline Rd	Kettleman City	559-386-9711

TABLE WM98-1
Class II Solid Waste Facilities in California

County	Facility Name	Address	City	Phone
Los Angeles	Chiquita Canyon Sanitary Landfill	29201 Henry Mayo Drive	Valencia	661-257-3655
Placer	Western Regional Landfill	3195 Athens Rd	Lincoln	916-889-7417
Sacramento	L and D Landfill	8635 Fruitridge Rd	Sacramento	916-737-8640
San Joaquin	Forward Inc	9999 S. Austin Rd	Manteca	209-466-4482
Santa Clara	NORCAL Waste Systems Pacheco Pass	3665 Pacheco Pass Hwy	San Felipe	408-847-3062
Solano	Hay Road Landfill (B&J Landfill)	6426 Hay Rd	Vacaville	707-678-4718
Stanislaus	Fink Road Landfill	4000 Fink Rd	Crows Landing	209-837-4801
Ventura	Simi Valley Landfill	2801 Madera Rd	Simi Valley	805-522-7023
Yolo	Yolo County Central Landfill	Country Rd 28h & Country Rd 104	Davis	530-757-5577
Yuba	NORCAL Waste Systems Ostrom Road Landfill	5900 Ostrom Rd	Wheatland	707-678-1492

BACKGROUND

The AFC includes a Phase II Environmental Site Assessment (ESA) that presents results of sampling for pesticide residues and heavy metals, based on the recommendations of the Phase I ESA. The Department of Toxic Substances Control has issued a document entitled Interim Guidance for Sampling Agricultural Fields for School Sites (Second Revision) dated August 26, 2002. Staff notes that the data provided in the AFC does not conform precisely to the data recommendations in the above guidance document, and staff will coordinate with DTSC to resolve outstanding issues. The following data requests are in addition to any further information DTSC may need in order to provide their conclusions to staff.

DATA REQUEST

99. Please provide a copy of Figure 1 referred to in the Phase II ESA.

Response: Figure 1 from the Phase II ESA, showing the sampling locations, is attached.

100. Please provide the laboratory detection limits used in Table 1 of the Phase II ESA.

Response: The laboratory detection limits are in the lab data within the Phase II Summary Report. There are referred to as "Reporting Limits." A copy of the lab data was not included in the AFC. It is provided here as Attachment WM-100.

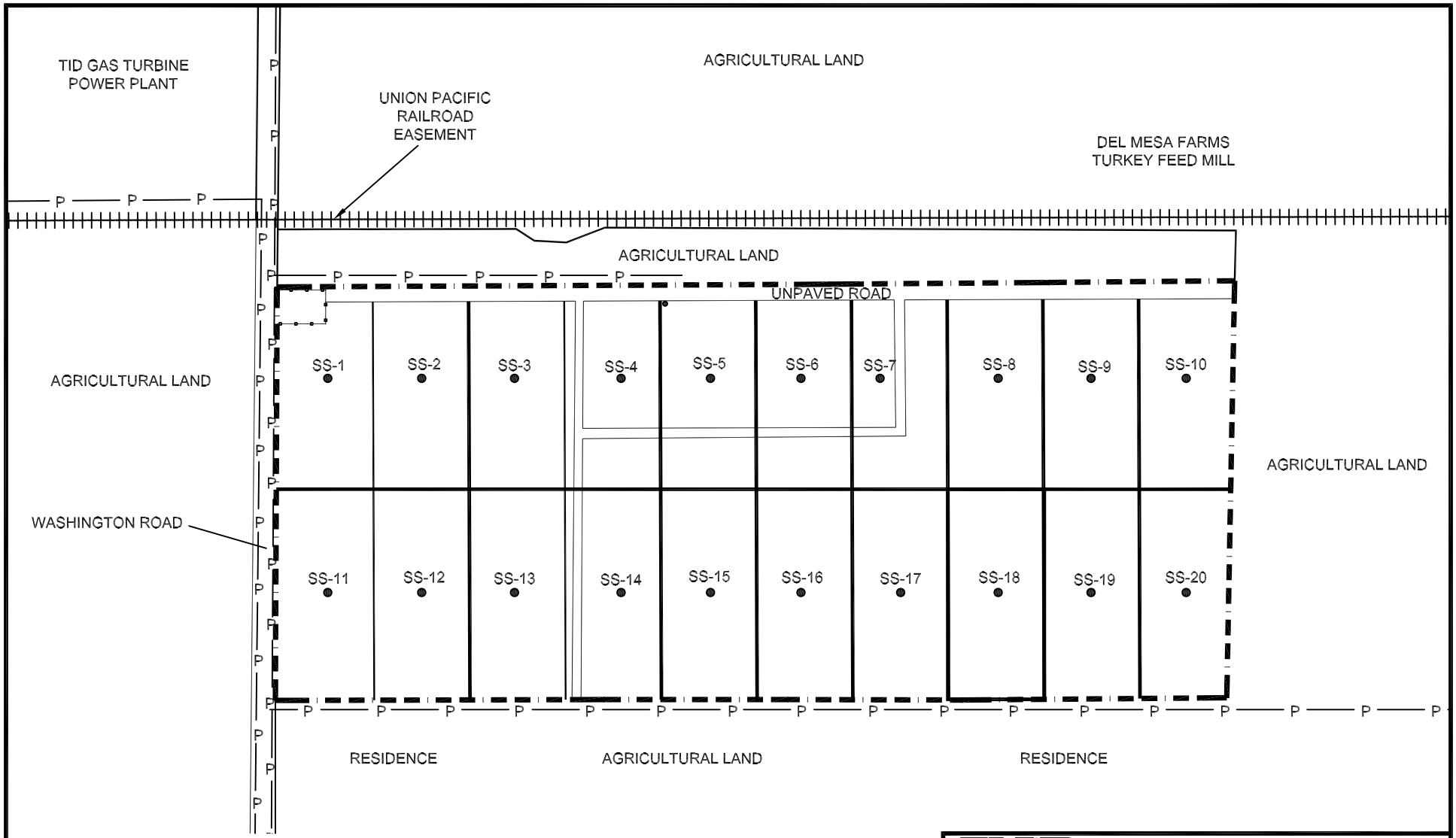
101. Please indicate if offsite sampling was performed for metals in order to conclude that the metals detected were "deemed as naturally occurring compounds indigenous to the soils I the area (AFC p. 8.13-4)."

Response: Off-site sampling was not performed to determine if the metals concentrations are "naturally occurring." Due to the fact that the concentration of metals detected was well below Preliminary Remediation Goals, background sampling should not be needed. Additionally, surrounding properties have experienced historically similar agricultural uses; therefore, it is likely that metals concentrations detected at the subject site are at similar levels than would be detected at surrounding properties.

102. Please indicate why subsurface samples were not taken per DTSC guidance.

Response: The DTSC Guidance for Sampling Agricultural Sites was developed primarily for assisting in sampling school sites. Sampling for the subject site was performed in a grid pattern at regular intervals and sample depths to determine the presence if any, of residual pesticides and metals. Based on results from the Phase I Assessment and interviews with the property owner regarding historic site use, this protocol was determined to be sufficient for the purpose of determining the presence of metals and pesticides at the subject site. Had any metals or pesticides in significant concentrations been detected from this initial sampling event, a more comprehensive sampling event would have been recommended as follow-up.

Based on the laboratory results, further soil sampling should not be required. Additionally, as part of the Phase 2 analysis, ENSR ran a statistical analysis of this data in a Students "T" test, which confirms that an appropriate amount of samples were obtained based on the results.



LEGEND:

SS-2 ● APPROXIMATE SOIL SAMPLE LOCAITON

SUBJECT PROPERTY BOUNDARY

P POWER LINE

RAILROAD TRACKS

NORTH

0 400'

APPROXIMATE SCALE

ENSR INTERNATIONAL

FIGURE 1

SITE SAMPLING PLAN

69-Acre Parcel
600 South Washington Road
Turlock Irrigation District
Turlock, California

Drawn By: A. Churchill	Date: 10/15/02	PROJECT NO. 08727103-100	REV.
File: J:\Projects\08727\103\Working\soil sampling\sample figure			

ATTACHMENT WM-100

Laboratory Data From Phase II ESA

ENSR INTERNATIONAL

ATTACHMENT A

LABORATORY ANALYTICAL REPORT

McCampbell Analytical Inc.
110 2nd Avenue South, #D7, Pacheco, CA 94553-5560
Telephone : 925-798-1620 Fax : 925-798-1622
http://www.mccampbell.com E-mail: main@mccampbell.com

ENSR 10324 Placer Lane, Ste. 200 Sacramento, CA 95827	Client Project ID: #08727103-100; TID-69 acre parcel	Date Sampled: 10/18/02
		Date Received: 10/18/02
	Client Contact: Alan Churchill	Date Extracted: 10/18/02
	Client P.O.:	Date Analyzed: 10/22/02

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: PR8081_S Analytical Method: SW8081B Work Order: 0210353

Lab ID	0210353-001A	0210353-002A	0210353-003A	0210353-004A	Reporting Limit for DF =1	
Client ID	SS20,19,10,9	SS18,17,8,7	SS16,15,6,5	SS14,13,4,3		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				ug/kg	ug/L
Aldrin	ND	ND	ND	ND	1.0	NA
a-BHC	ND	ND	ND	ND	1.0	NA
b-BHC	ND	ND	ND	ND	1.0	NA
g-BHC	ND	ND	ND	ND	1.0	NA
d-BHC	ND	ND	ND	ND	1.0	NA
Chlordane (Technical)	ND	ND	ND	ND	25	NA
a-Chlordane	ND	ND	ND	ND	1.0	NA
g-Chlordane	ND	ND	ND	ND	1.0	NA
p,p-DDD	ND	ND	ND	ND	1.0	NA
p,p-DDE	ND	ND	ND	ND	1.0	NA
p,p-DDT	ND	ND	ND	ND	1.0	NA
Dieldrin	ND	ND	ND	ND	1.0	NA
Endosulfan I	ND	ND	ND	ND	1.0	NA
Endosulfan II	ND	ND	ND	ND	1.0	NA
Endosulfan sulfate	ND	ND	ND	ND	1.0	NA
Endrin	ND	ND	ND	ND	1.0	NA
Endrin aldehyde	ND	ND	ND	ND	1.0	NA
Heptachlor epoxide	ND	ND	ND	ND	1.0	NA
Heptachlor	ND	ND	ND	ND	1.0	NA
Methoxychlor	ND	ND	ND	ND	1.0	NA
Toxaphene	ND	ND	ND	ND	50	NA
Surrogate Recoveries (%)						
%SS:	99.5	104	104	106		
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

surrogate diluted out of range or surrogate coelutes with another peak

+(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~2 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup.

DHS Certification No. 1644 _____Edward Hamilton, Lab Director

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		Date Received: 10/18/02
	Client Contact: Alan Churchill	Date Extracted: 10/18/02
	Client P.O.:	Date Analyzed: 10/22/02

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: PR8081_S | Analytical Method: SW8081B | Work Order: 0210353

					Reporting Limit for DF =1	
Lab ID	0210353-005A					
Client ID	SS12,11,2,1					
Matrix	S					
DF	1				S	W
Compound	**Concentration**				ug/kg	ug/L
Aldrin	ND				1.0	NA
a-BHC	ND				1.0	NA
b-BHC	ND				1.0	NA
g-BHC	ND				1.0	NA
d-BHC	ND				1.0	NA
Chlordane (Technical)	ND				25	NA
a-Chlordane	ND				1.0	NA
g-Chlordane	ND				1.0	NA
p,p-DDD	ND				1.0	NA
p,p-DDE	ND				1.0	NA
p,p-DDT	ND				1.0	NA
Dieldrin	ND				1.0	NA
Endosulfan I	ND				1.0	NA
Endosulfan II	ND				1.0	NA
Endosulfan sulfate	ND				1.0	NA
Endrin	ND				1.0	NA
Endrin aldehyde	ND				1.0	NA
Heptachlor epoxide	ND				1.0	NA
Heptachlor	ND				1.0	NA
Methoxychlor	ND				1.0	NA
Toxaphene	ND				50	NA
Surrogate Recoveries (%)						
%SS:	106					
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

surrogate diluted out of range or surrogate coelutes with another peak

+(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~2 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup.

DHS Certification No. 1644

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ENSR 10324 Placer Lane, Ste. 200 Sacramento, CA 95827	Client Project ID: #08727103-100; TID-69 acre parcel	Date Sampled: 10/18/02
		Date Received: 10/18/02
	Client Contact: Alan Churchill	Date Extracted: 10/18/02
	Client P.O.:	Date Analyzed: 10/21/02-10/23/02

CAM / CCR 17 Metals*

Lab ID	0210353-001A	0210353-002A	0210353-003A	0210353-004A	Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	SS20,19,10,9	SS18,17,8,7	SS16,15,6,5	SS14,13,4,3		
Matrix	S	S	S	S	O/S	W
Extraction Type	TTLC	TTLC	TTLC	TTLC	TTLC(mg/Kg)	mg/L

ICP Metals, Concentration*

Analytical Method: 6010C Extraction Method: PRICP_S Work Order: 0210353

Dilution Factor	1	1	1	1	1	1
Antimony	ND	ND	ND	ND	2.5	NA
Barium	41	42	48	46	2.5	NA
Beryllium	ND	ND	ND	ND	0.5	NA
Cadmium	ND	ND	ND	ND	0.5	NA
Chromium	6.0	5.9	7.7	5.9	0.5	NA
Cobalt	3.3	2.9	3.5	2.8	2.0	NA
Copper	8.2	8.0	8.3	8.6	2.0	NA
Lead	3.3	ND	4.8	4.5	3.0	NA
Molybdenum	ND	ND	ND	ND	2.0	NA
Nickel	3.9	3.1	3.8	ND	2.0	NA
Silver	ND	ND	ND	ND	1.0	NA
Vanadium	21	19	22	20	2.0	NA
Zinc	27	28	31	31	1.0	NA
%SS:	105	103	105	106		

GFAA Metals, Concentration*

Analytical Method: SW7010 Extraction Method: PRAA_S

Dilution Factor	1	1	1	1	1	1
Arsenic	ND	ND	ND	ND	2.5	NA
Selenium	ND	ND	ND	ND	2.5	NA
Thallium	ND	ND	ND	ND	2.5	NA

Cold Vapor Metals, Concentration*

Analytical Method: SW7471B Extraction Method: PRHG_S

Dilution Factor	1	1	1	1	1	1
Mercury	ND	ND	ND	ND	0.06	NA
Comments						

* water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / DISTLC / SPLP extracts in mg/L.

means surrogate recovery outside of acceptance range due to matrix interference; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water- Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes - As, Se, Tl); 7471B (Hg).

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; j) reporting limit raised due to insufficient sample amounty; y) estimated values due to low surrogate recovery; z) reporting limit raised due to matrix interference.

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ENSR 10324 Placer Lane, Ste. 200 Sacramento, CA 95827	Client Project ID: #08727103-100; TID-69 acre parcel	Date Sampled: 10/18/02
		Date Received: 10/18/02
	Client Contact: Alan Churchill	Date Extracted: 10/18/02
	Client P.O.:	Date Analyzed: 10/21/02-10/23/02

CAM / CCR 17 Metals*

					Reporting Limit for DF =1; ND means not detected above the reporting limit	
Lab ID	0210353-005A					
Client ID	SS12,11,2,1					
Matrix	S				O/S	W
Extraction Type	TTLC				TTLC(mg/Kg)	mg/L

ICP Metals, Concentration*

Analytical Method: 6010C Extraction Method: PRICP_S Work Order: 0210353

Dilution Factor	1					1	1
Antimony	ND					2.5	NA
Barium	50					2.5	NA
Beryllium	ND					0.5	NA
Cadmium	ND					0.5	NA
Chromium	6.7					0.5	NA
Cobalt	2.9					2.0	NA
Copper	9.0					2.0	NA
Lead	4.1					3.0	NA
Molybdenum	ND					2.0	NA
Nickel	4.3					2.0	NA
Silver	ND					1.0	NA
Vanadium	21					2.0	NA
Zinc	30					1.0	NA
%SS:	106						

GFAA Metals, Concentration*

Analytical Method: SW7010 Extraction Method: PRAA_S

Dilution Factor	1					1	1
Arsenic	ND					2.5	NA
Selenium	ND					2.5	NA
Thallium	ND					2.5	NA

Cold Vapor Metals, Concentration*

Analytical Method: SW7471B Extraction Method: PRHG_S

Dilution Factor	1					1	1
Mercury	ND					0.06	NA
Comments							

* water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / DISTLC / SPLP extracts in mg/L.

means surrogate recovery outside of acceptance range due to matrix interference; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water- Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes - As, Se, Tl); 7471B (Hg).

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; j) reporting limit raised due to insufficient sample amounty; y) estimated values due to low surrogate recovery; z) reporting limit raised due to matrix interference.

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QC SUMMARY REPORT FOR SW7471B

Matrix: S WorkOrder: 0210353

EPA Method: SW7471B	Extraction: PRHG_S			BatchID: 4487			Spiked Sample ID: 0210339-001A			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Mercury	N/A	0.25	N/A	N/A	N/A	72.4	70.8	1.60	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

Mercury

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR SW8081B

Matrix: S WorkOrder: 0210353

EPA Method: SW8081B	Extraction: PR8081_S		BatchID: 4530			Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/Kg	µg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Aldrin	N/A	10	N/A	N/A	N/A	107	113	5.53	70	130
g-BHC	N/A	10	N/A	N/A	N/A	95	93.8	1.26	70	130
p,p-DDT	N/A	25	N/A	N/A	N/A	101	103	1.69	70	130
Dieldrin	N/A	25	N/A	N/A	N/A	110	112	1.87	70	130
Endrin	N/A	25	N/A	N/A	N/A	94	97.6	3.84	70	130
Heptachlor	N/A	10	N/A	N/A	N/A	116	117	0.728	70	130
%SS:	N/A	100	N/A	N/A	N/A	80.1	80.7	0.748	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR SW7010

Matrix: O WorkOrder: 0210353

EPA Method: SW7010	Extraction: PRAA_S		BatchID: 4531			Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Arsenic	N/A	5	N/A	N/A	N/A	98.8	107	7.76	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR SW7010

Matrix: S WorkOrder: 0210353

EPA Method: SW7010	Extraction: PRAA_S		BatchID: 4531			Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Arsenic	N/A	5	N/A	N/A	N/A	98.8	107	7.76	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR 6010C

Matrix: S WorkOrder: 0210353

EPA Method: 6010C	Extraction: PRICP_S		BatchID: 4537			Spiked Sample ID: 0210349-003A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Antimony	ND	500	RR	RR	34.1	F2	F2	3.73	70	130
Barium	344.4	500	71.4	53.1 ,F1	13.9	87.1	86.3	0.847	70	130
Beryllium	ND	500	95.8	91.3	4.83	99.9	102	1.67	70	130
Cadmium	ND	500	89.1	85.7	3.89	91.5	89.6	2.14	70	130
Chromium	44.32	500	83.7	80.5	3.55	90.5	91.2	0.675	70	130
Cobalt	ND	500	85.8	82	4.62	89.2	88.5	0.729	70	130
Copper	ND	500	89.5	85.8	4.26	86.9	86.4	0.528	70	130
Lead	11.47	500	78.9	76.8	2.60	84.1	82.4	2.12	70	130
Molybdenum	ND	500	76.1	75.1	1.37	90.7	92.6	2.06	70	130
Nickel	107.9	500	79.5	75.7	3.86	90.9	91.2	0.341	70	130
Silver	ND	50	75.9	75.4	0.549	81.6	82.3	0.931	70	130
Vanadium	ND	500	92.6	88.4	4.66	89.5	89.6	0.0292	70	130
Zinc	54.91	500	85.3	82.5	2.92	89.6	89.4	0.203	70	130
%SS:	98.8	100	101	98.7	2.75	101	103	1.76	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
Molybdenum

F1 = MS / MSD exceed acceptance criteria. LCS - LCSD validate prep batch.

F2 = LCS / LCSD exceed acceptance criteria. PREP BATCH QC FAIL.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR SW7471B

Matrix: S WorkOrder: 0210353

EPA Method: SW7471B	Extraction: PRHG_S		BatchID: 4540			Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Mercury	N/A	0.25	N/A	N/A	N/A	95.6	99.9	4.45	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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ENSR 10324 Placer Lane, Ste. 200 Sacramento, CA 95827	Client Project ID: #08727103-100; TID-69 acre parcel	Date Sampled: 10/18/02
		Date Received: 10/18/02
	Client Contact: Alan Churchill	Date Reported: 10/24/02
	Client P.O.:	Date Completed: 10/29/02

October 29, 2002

Dear Alan:

Enclosed are:

1). the results of **5** analyzed samples from your **#08727103-100; TID-69 acre parcel project,**

2). a QC report for the above samples

3). a copy of the chain of custody, and

4). a bill for analytical services.

All analyses were completed satisfactorily and all QC samples were found to be within our control limits. If you have any questions please contact me. McCampbell Analytical Laboratories strives for excellence in quality, service and cost. Thank you for your business and I look forward to working with you again.

Yours truly,

Angela Rydelius, Lab Manager

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ENSR 10324 Placer Lane, Ste. 200 Sacramento, CA 95827	Client Project ID: #08727103-100; TID-69 acre parcel	Date Sampled: 10/18/02
		Date Received: 10/18/02
	Client Contact: Alan Churchill	Date Extracted: 10/18/02
	Client P.O.:	Date Analyzed: 10/22/02

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: PR8081_S | Analytical Method: SW8081B | Work Order: 0210353

Lab ID	0210353-001A	0210353-002A	0210353-003A	0210353-004A	Reporting Limit for DF =1	
Client ID	SS20,19,10,9	SS18,17,8,7	SS16,15,6,5	SS14,13,4,3		
Matrix	S	S	S	S		
DF	1	1	1	1	S	W
Compound	**Concentration**				ug/kg	ug/L
Aldrin	ND	ND	ND	ND	1.0	NA
a-BHC	ND	ND	ND	ND	1.0	NA
b-BHC	ND	ND	ND	ND	1.0	NA
g-BHC	ND	ND	ND	ND	1.0	NA
d-BHC	ND	ND	ND	ND	1.0	NA
Chlordane (Technical)	ND	ND	ND	ND	25	NA
a-Chlordane	ND	ND	ND	ND	1.0	NA
g-Chlordane	ND	ND	ND	ND	1.0	NA
p,p-DDD	ND	ND	ND	ND	1.0	NA
p,p-DDE	ND	ND	ND	ND	1.0	NA
p,p-DDT	ND	ND	ND	ND	1.0	NA
Dieldrin	ND	ND	ND	ND	1.0	NA
Endosulfan I	ND	ND	ND	ND	1.0	NA
Endosulfan II	ND	ND	ND	ND	1.0	NA
Endosulfan sulfate	ND	ND	ND	ND	1.0	NA
Endrin	ND	ND	ND	ND	1.0	NA
Endrin aldehyde	ND	ND	ND	ND	1.0	NA
Heptachlor epoxide	ND	ND	ND	ND	1.0	NA
Heptachlor	ND	ND	ND	ND	1.0	NA
Methoxychlor	ND	ND	ND	ND	1.0	NA
Toxaphene	ND	ND	ND	ND	50	NA
Surrogate Recoveries (%)						
%SS:	99.5	104	104	106		
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

surrogate diluted out of range or surrogate coelutes with another peak

+(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~2 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup.

DHS Certification No. 1644

Edward Hamilton, Lab Director

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ENSR 10324 Placer Lane, Ste. 200 Sacramento, CA 95827	Client Project ID: #08727103-100; TID-69 acre parcel	Date Sampled: 10/18/02
		Date Received: 10/18/02
	Client Contact: Alan Churchill	Date Extracted: 10/18/02
	Client P.O.:	Date Analyzed: 10/22/02

Organochlorine Pesticides by GC-ECD (8080 Basic Target List)*

Extraction Method: PR8081_S | Analytical Method: SW8081B | Work Order: 0210353

					Reporting Limit for DF =1	
Lab ID	0210353-005A					
Client ID	SS12,11,2,1					
Matrix	S					
DF	1				S	W
Compound	**Concentration**				ug/kg	ug/L
Aldrin	ND				1.0	NA
a-BHC	ND				1.0	NA
b-BHC	ND				1.0	NA
g-BHC	ND				1.0	NA
d-BHC	ND				1.0	NA
Chlordane (Technical)	ND				25	NA
a-Chlordane	ND				1.0	NA
g-Chlordane	ND				1.0	NA
p,p-DDD	ND				1.0	NA
p,p-DDE	ND				1.0	NA
p,p-DDT	ND				1.0	NA
Dieldrin	ND				1.0	NA
Endosulfan I	ND				1.0	NA
Endosulfan II	ND				1.0	NA
Endosulfan sulfate	ND				1.0	NA
Endrin	ND				1.0	NA
Endrin aldehyde	ND				1.0	NA
Heptachlor epoxide	ND				1.0	NA
Heptachlor	ND				1.0	NA
Methoxychlor	ND				1.0	NA
Toxaphene	ND				50	NA
Surrogate Recoveries (%)						
%SS:	106					
Comments						

* water and vapor samples and all TCLP & SPLP extracts are reported in ug/L, soil/sludge/solid samples in ug/kg, wipe samples in ug/wipe, product/oil/non-aqueous liquid samples in mg/L.

ND means not detected above the reporting limit; N/A means analyte not applicable to this analysis

surrogate diluted out of range or surrogate coelutes with another peak

+(a) PCB aroclor 1016; (b) PCB aroclor 1221; (c) PCB aroclor 1232; (d) PCB aroclor 1242; (e) PCB aroclor 1248; (f) PCB aroclor 1254; (g) PCB aroclor 1260; (h) a lighter than water immiscible sheen/product is present; (i) liquid sample that contains >~2 vol. % sediment; (j) sample diluted due to high organic content; (k) p,p,- is the same as 4,4,-; (l) florisil (EPA 3620) cleanup; (m) silica-gel (EPA 3630) cleanup; (n) elemental sulfur (EPA 3660) cleanup; (o) sulfuric acid permanganate (EPA 3665) cleanup.

DHS Certification No. 1644

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ENSR 10324 Placer Lane, Ste. 200 Sacramento, CA 95827	Client Project ID: #08727103-100; TID-69 acre parcel	Date Sampled: 10/18/02
		Date Received: 10/18/02
	Client Contact: Alan Churchill	Date Extracted: 10/18/02
	Client P.O.:	Date Analyzed: 10/21/02-10/23/02

CAM / CCR 17 Metals*

Lab ID	0210353-001A	0210353-002A	0210353-003A	0210353-004A	Reporting Limit for DF =1; ND means not detected above the reporting limit	
Client ID	SS20,19,10.9	SS18,17.8,7	SS16,15.6,5	SS14,13,4,3		
Matrix	S	S	S	S	O/S	W
Extraction Type	TTLC	TTLC	TTLC	TTLC	TTLC(mg/Kg)	mg/L

ICP Metals, Concentration*

Analytical Method: 6010C Extraction Method: PRICP_S Work Order: 0210353

Dilution Factor	1	1	1	1	1	1
Antimony	ND	ND	ND	ND	2.5	NA
Barium	41	42	48	46	2.5	NA
Beryllium	ND	ND	ND	ND	0.5	NA
Cadmium	ND	ND	ND	ND	0.5	NA
Chromium	6.0	5.9	7.7	5.9	0.5	NA
Cobalt	3.3	2.9	3.5	2.8	2.0	NA
Copper	8.2	8.0	8.3	8.6	2.0	NA
Lead	3.3	ND	4.8	4.5	3.0	NA
Molybdenum	ND	ND	ND	ND	2.0	NA
Nickel	3.9	3.1	3.8	ND	2.0	NA
Silver	ND	ND	ND	ND	1.0	NA
Vanadium	21	19	22	20	2.0	NA
Zinc	27	28	31	31	1.0	NA
%SS:	105	103	105	106		

GFAA Metals, Concentration*

Analytical Method: SW7010 Extraction Method: PRAA_S

Dilution Factor	1	1	1	1	1	1
Arsenic	ND	ND	ND	ND	2.5	NA
Selenium	ND	ND	ND	ND	2.5	NA
Thallium	ND	ND	ND	ND	2.5	NA

Cold Vapor Metals, Concentration*

Analytical Method: SW7471B Extraction Method: PRHG_S

Dilution Factor	1	1	1	1	1	1
Mercury	ND	ND	ND	ND	0.06	NA
Comments						

* water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / DISTLC / SPLP extracts in mg/L.

means surrogate recovery outside of acceptance range due to matrix interference; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water- Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes - As, Se, Tl); 7471B (Hg).

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; j) reporting limit raised due to insufficient sample amounty; y) estimated values due to low surrogate recovery; z) reporting limit raised due to matrix interference.

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ENSR 10324 Placer Lane, Ste. 200 Sacramento, CA 95827	Client Project ID: #08727103-100; TID-69 acre parcel	Date Sampled: 10/18/02
		Date Received: 10/18/02
	Client Contact: Alan Churchill	Date Extracted: 10/18/02
	Client P.O.:	Date Analyzed: 10/21/02-10/23/02

CAM / CCR 17 Metals*

					Reporting Limit for DF =1; ND means not detected above the reporting limit	
Lab ID	0210353-005A					
Client ID	SS12,11,2,1					
Matrix	S				O/S	W
Extraction Type	TTLC				TTLC(mg/Kg)	mg/L

ICP Metals, Concentration*

Analytical Method: 6010C Extraction Method: PRICP_S Work Order: 0210353

Dilution Factor	1					1	1
Antimony	ND					2.5	NA
Barium	50					2.5	NA
Beryllium	ND					0.5	NA
Cadmium	ND					0.5	NA
Chromium	6.7					0.5	NA
Cobalt	2.9					2.0	NA
Copper	9.0					2.0	NA
Lead	4.1					3.0	NA
Molybdenum	ND					2.0	NA
Nickel	4.3					2.0	NA
Silver	ND					1.0	NA
Vanadium	21					2.0	NA
Zinc	30					1.0	NA
%SS:	106						

GFAA Metals, Concentration*

Analytical Method: SW7010 Extraction Method: PRAA_S

Dilution Factor	1					1	1
Arsenic	ND					2.5	NA
Selenium	ND					2.5	NA
Thallium	ND					2.5	NA

Cold Vapor Metals, Concentration*

Analytical Method: SW7471B Extraction Method: PRHG_S

Dilution Factor	1					1	1
Mercury	ND					0.06	NA
Comments							

* water samples are reported in mg/L, soil/sludge/solid/product samples in mg/kg, wipes in ug/wipe and all TCLP / STLC / DISTLC / SPLP extracts in mg/L.

means surrogate recovery outside of acceptance range due to matrix interference; ND means not detected above the reporting limit; N/A means not applicable to this sample or instrument.

Analytical Methods: EPA 6010C/200.7 for all elements except: 200.9 (water- Sb, As, Pb, Se, Tl); 245.1 (Hg); 7010 (sludge/soil/solid/oil/product/wipes - As, Se, Tl); 7471B (Hg).

i) liquid sample that contains greater than ~2 vol. % sediment; this sediment is extracted with the liquid, in accordance with EPA methodologies and can significantly effect reported metal concentrations; j) reporting limit raised due to insufficient sample amounty; y) estimated values due to low surrogate recovery; z) reporting limit raised due to matrix interference.

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QC SUMMARY REPORT FOR SW7471B

Matrix: S WorkOrder: 0210353

EPA Method: SW7471B	Extraction: PRHG_S			BatchID: 4487			Spiked Sample ID: 0210339-001A			
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Mercury	N/A	0.25	N/A	N/A	N/A	72.4	70.8	1.60	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

Mercury

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR SW8081B

Matrix: S WorkOrder: 0210353

EPA Method: SW8081B	Extraction: PR8081_S			BatchID: 4530		Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	µg/Kg	µg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Aldrin	N/A	10	N/A	N/A	N/A	107	113	5.53	70	130
g-BHC	N/A	10	N/A	N/A	N/A	95	93.8	1.26	70	130
p,p-DDT	N/A	25	N/A	N/A	N/A	101	103	1.69	70	130
Dieldrin	N/A	25	N/A	N/A	N/A	110	112	1.87	70	130
Endrin	N/A	25	N/A	N/A	N/A	94	97.6	3.84	70	130
Heptachlor	N/A	10	N/A	N/A	N/A	116	117	0.728	70	130
%SS:	N/A	100	N/A	N/A	N/A	80.1	80.7	0.748	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR SW7010

Matrix: O WorkOrder: 0210353

EPA Method: SW7010	Extraction: PRAA_S			BatchID: 4531		Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Arsenic	N/A	5	N/A	N/A	N/A	98.8	107	7.76	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR SW7010

Matrix: S WorkOrder: 0210353

EPA Method: SW7010	Extraction: PRAA_S		BatchID: 4531			Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Arsenic	N/A	5	N/A	N/A	N/A	98.8	107	7.76	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR 6010C

Matrix: S WorkOrder: 0210353

EPA Method: 6010C	Extraction: PRICP_S		BatchID: 4537			Spiked Sample ID: 0210349-003A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Antimony	ND	500	RR	RR	34.1	F2	F2	3.73	70	130
Barium	344.4	500	71.4	53.1 ,F1	13.9	87.1	86.3	0.847	70	130
Beryllium	ND	500	95.8	91.3	4.83	99.9	102	1.67	70	130
Cadmium	ND	500	89.1	85.7	3.89	91.5	89.6	2.14	70	130
Chromium	44.32	500	83.7	80.5	3.55	90.5	91.2	0.675	70	130
Cobalt	ND	500	85.8	82	4.62	89.2	88.5	0.729	70	130
Copper	ND	500	89.5	85.8	4.26	86.9	86.4	0.528	70	130
Lead	11.47	500	78.9	76.8	2.60	84.1	82.4	2.12	70	130
Molybdenum	ND	500	76.1	75.1	1.37	90.7	92.6	2.06	70	130
Nickel	107.9	500	79.5	75.7	3.86	90.9	91.2	0.341	70	130
Silver	ND	50	75.9	75.4	0.549	81.6	82.3	0.931	70	130
Vanadium	ND	500	92.6	88.4	4.66	89.5	89.6	0.0292	70	130
Zinc	54.91	500	85.3	82.5	2.92	89.6	89.4	0.203	70	130
%SS:	98.8	100	101	98.7	2.75	101	103	1.76	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:
Molybdenum

F1 = MS / MSD exceed acceptance criteria. LCS - LCSD validate prep batch.

F2 = LCS / LCSD exceed acceptance criteria. PREP BATCH QC FAIL.

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations

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QC SUMMARY REPORT FOR SW7471B

Matrix: S WorkOrder: 0210353

EPA Method: SW7471B	Extraction: PRHG_S			BatchID: 4540		Spiked Sample ID: N/A				
Compound	Sample	Spiked	MS*	MSD*	MS-MSD*	LCS	LCSD	LCS-LCSD	Acceptance Criteria (%)	
	mg/Kg	mg/Kg	% Rec.	% Rec.	% RPD	% Rec.	% Rec.	% RPD	Low	High
Mercury	N/A	0.25	N/A	N/A	N/A	95.6	99.9	4.45	70	130

All target compounds in the Method Blank of this extraction batch were ND less than the method RL with the following exceptions:

NONE

MS = Matrix Spike; MSD = Matrix Spike Duplicate; LCS = Laboratory Control Sample; LCSD = Laboratory Control Sample Duplicate; RPD = Relative Percent Deviation.

N/A = not enough sample to perform matrix spike and matrix spike duplicate.
NR = analyte concentration in sample exceeds spike amount for soil matrix or exceeds 2x spike amount for water matrix or sample diluted due to high matrix or analyte content.

% Recovery = 100 * (MS-Sample) / (Amount Spiked); RPD = 100 * (MS – MSD) / (MS + MSD) * 2.

* MS and / or MSD spike recoveries may not be near 100% or the RPDs near 0% if: a) the sample is inhomogenous AND contains significant concentrations